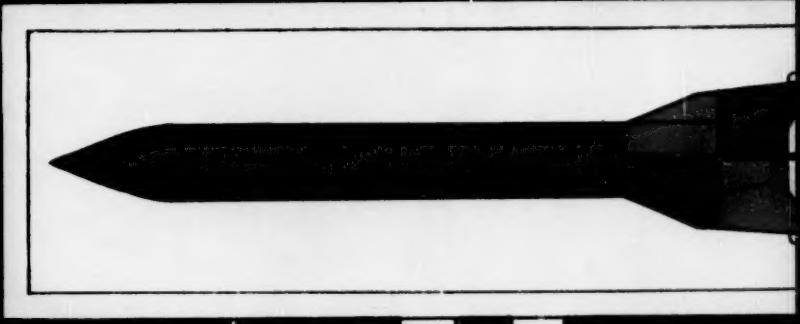
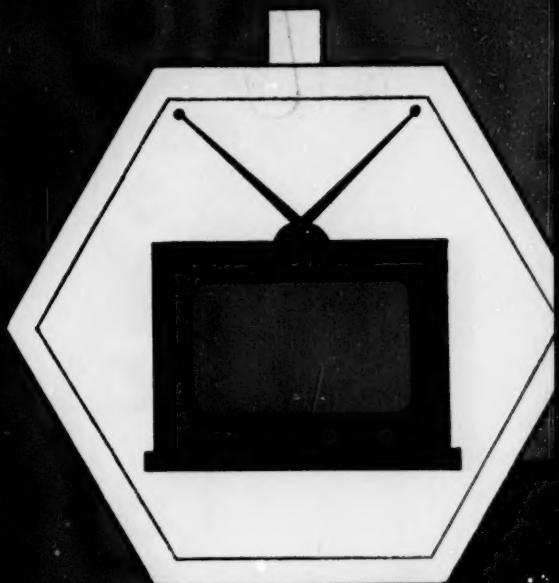


MARINE CORPS GAZETTE



Marine Corps Gazette

MARCH 1951

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Opinions expressed in the Marine Corps GAZETTE do not necessarily reflect the attitude of the Navy Department nor that of Headquarters, United States Marine Corps.

THIS MONTH'S COVER: Atomic missiles, truly amphibious tanks, and television for the commander in the field are subjects discussed in this issue. Inspired by the three articles *Signposts of the Future*, page 26; *Urgent—Land the Tanks*, page 18; and *Take TV Out of the Bar*, page 42, this month's cover was designed to focus attention on some problems of the future and proposed solutions, as seen by the authors.

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MARINE CORPS GAZETTE

Professional Magazine for the United States Marines
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THIS MONTH AND NEXT—This month the GAZETTE follows through with another “on the spot” combat report from Korea. 2dLt Eugene J. Paradis tells how he reorganized his 81mm mortar platoon to provide continuous fire support in a rapidly moving situation. It contains some good tips on use of mortars. Also in this issue Maj Robert E. Collier discusses possible military use of television in *Take TV Out of the Bar and Put It To Work*. Army officers provide two articles this month.

In April the GAZETTE begins a series of four articles by Prof W. H. Russell, U. S. Naval Academy, tracing the conception and evolution of the FMF theory and discussing the great fight waged to provide the Navy a landing force. It is factual material and should be of interest to all Marines. Commodore Dudley Knox, well known naval writer, contributes *Something to Stop A Tank*.

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TO THE EDITOR

Message Center

Fix Bayonets . . .

DEAR SIR:

During the Inspector General's inspection recently, the inspecting officer directed several platoon leaders to have their platoons fix bayonets. The platoon leaders gave the proper commands and the men armed with the M-1 rifle executed the movement correctly and with dispatch. The men armed with carbines, however, executed the movement in two completely different methods.

Naturally this was very obvious to the inspecting officer and mention was made of it.

Later, during a discussion of the inspection, this was mentioned and the question asked: "What is the prescribed method to fix bayonets with the carbine?"

This brought a quick review of FM 22-5 and the new Landing Party Manual and lo and behold, there is no prescribed method in either manual.

Subsequent checks of other manuals have been made and nowhere to be found is there any enlightenment.

Now I would like to ask the same question of GAZETTE readers: "How do you fix bayonets when armed with the carbine?" Also, on what reference are answers based?

JOSEPH E. MUIR,
2dLt, USMC

Let's Go to College . . .

DEAR SIR:

Lieutenant Stiles' article entitled "Let's Go to College" in the October issue of the GAZETTE was read with extreme interest. I would like to bring to light some of the facilities available to just such persons as those mentioned by Lieutenant Stiles.

Each month the GAZETTE pays five dollars for each letter printed. These pages are intended for comments and corrections on past articles and as a discussion center for pet theories, battle lessons, training expedients, and what have you. Correspondents are asked to keep their communications limited to 200 words or less. Signatures will be withheld if requested; however, the GAZETTE requires that the name and address of the sender accompany the letter as an evidence of good faith.

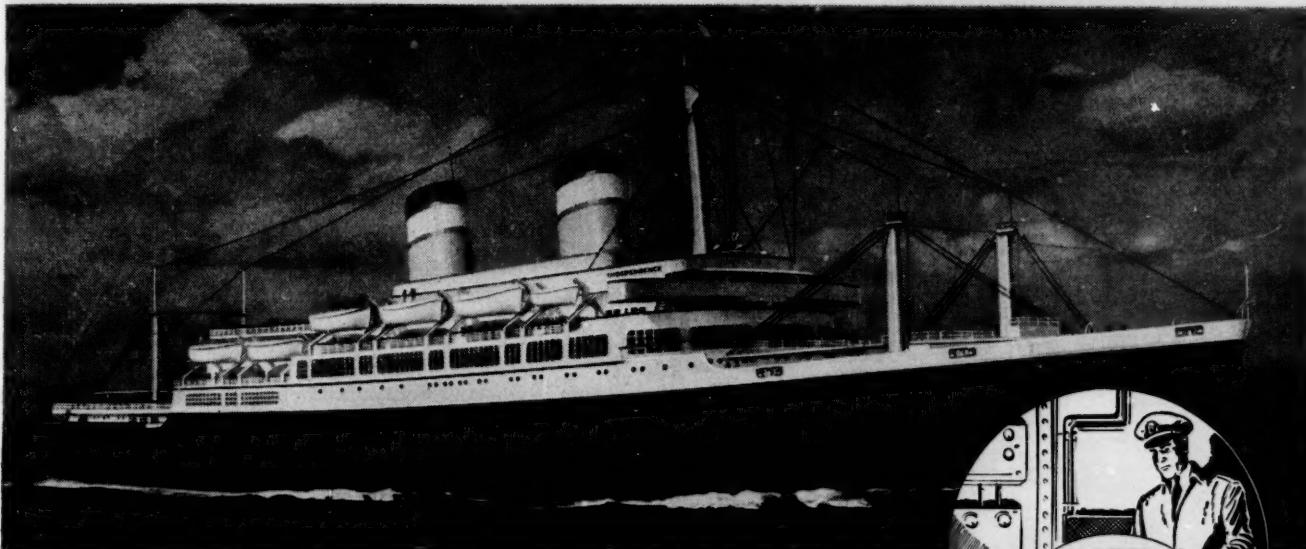
First of all there is a series of General Educational Development Tests on the college level which any one in the service with a high school education or its equivalent is eligible to take. Successful completion of this series of examinations makes a man eligible to receive as many as 24 hours of credit toward a degree depending, of course, upon the college in which accreditation is requested. Besides this, many colleges grant credit toward a degree based upon the actual work the man has been performing in the service. Credit is also given for most of the military schools that the man has attended.

The Marine Corps Institute and the Armed Forces Institute offer an unlimited number of courses by correspondence that will be accepted by colleges for credit toward a degree. One policy too often overlooked is the program conducted through the United States Armed Forces Institute with a number of cooperating colleges throughout the United States. Here one can take correspondence courses directly with the college of his choice and the price is cut almost in half or even better in some cases. If a number of men are interested they can get together and make arrangements with some nearby college to carry on an extension course on the camp or station thus bringing the course, the credit, and the college professor right to your doorstep.

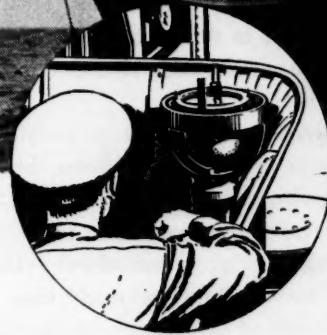
With all these facilities available it is still admitted that a college degree can not be obtained due to the residence work required by all colleges before you are eligible for a degree. However, at least two full years toward a degree can be obtained by this means. After a man has made an effort to gain credit toward his degree through the facilities available and can go no further by correspondence then it would be excellent for the Marine Corps to have some system whereby these men could be aided either by being stationed near some college or by being detailed to duty on some college campus.

It is highly advisable that before anyone begins work on a correspondence course he should get in contact with the college he wishes to obtain his degree from and find out to what extent the college will accept credits from military institutions. The United States Armed Forces Institute form 47 (Revised form DD 295) is specifically designed for such a purpose. At the same time it would be an excellent idea to send a copy of the Marine Corps Institute Handbook to the college, indicating the courses you are interested in taking. The college can then make reply as to whether it will accept the course for credit upon completion. Actual excerpts from the Marine Occupational Specialty Manual would be an aid to the college in evaluating your inservice work.

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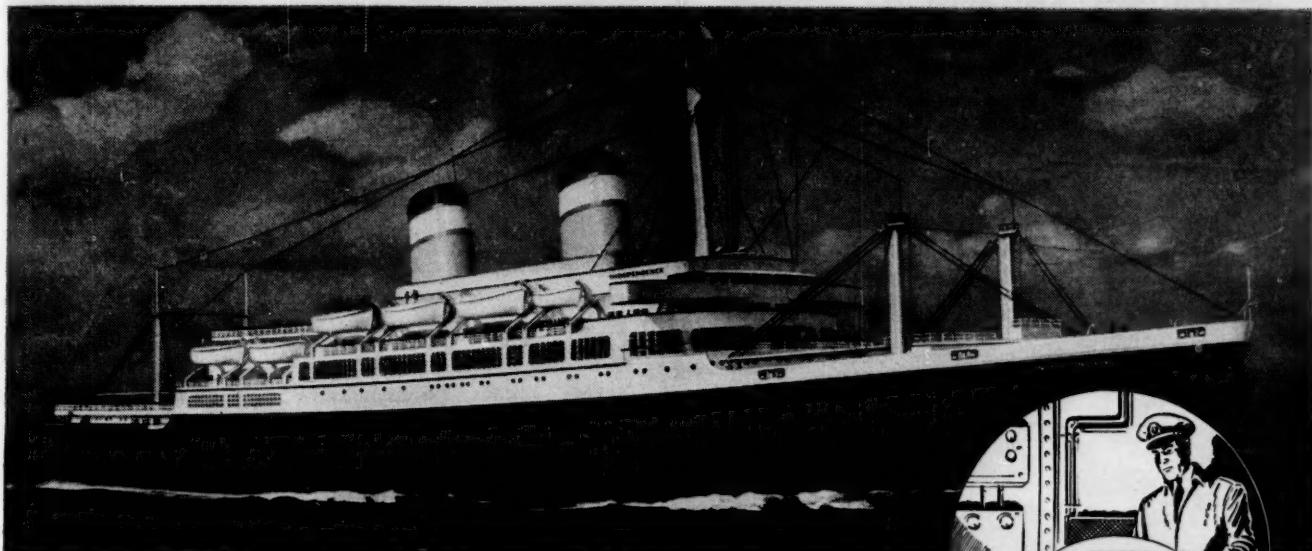
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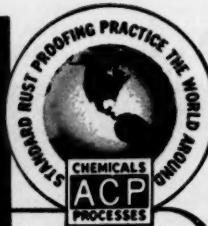
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RR-C-82	"Lithoform" No. 32
MIL-C-5541 (See also QPL-5541-1)	"Aldoline" "Aldone"
MIL-S-5002	"Granodine"
JAN-C-490, Grade I	"Granodine"
JAN-F-495	"Granodine"
JAN-L-548	"Lithoform"
AN-E-19	"Permadine"
AN-F-20	"Aldine" "Zinodine" "Aldone" "Granodine" "Lithoform" "Permadine" "Thermoil-Granodine" "Zinodine" (See also U. S. A. 3-213)
U. S. A. 57-0-2	"Thermoil-Granodine"
Type II, Class A	"Permadine"
Type II, Class B	"Granodine"
Type II, Class C	"Granodine"
U. S. A. 51-70-1	"Thermoil-Granodine"
Finish 22.02, Class A	"Permadine"
Finish 22.02, Class B	"Granodine"
Finish 22.02, Class C	"Granodine"
U. S. A. 50-60-1	"Granodine"
U. S. Navord O.S. 675	"Aldine"
U. S. N. Appendix 6	"Lithoform"
Navy Aeronautical M-364	"Permadine"
16E4 (Ships)	"Thermoil-Granodine" "Aldine" "Granodine" "Zinodine" (See MIL-C-5541)
AN-C-170	"Permadine"
U. S. A. 72-53	"Aldine"
AXS-1245	"Zinodine" (See AN-F-20)

**RUST REMOVING AND METAL CONDITIONING
CHEMICALS**

Specification Number	ACP Specification Chemical
JAN-C-490, Grade II	
Type 4	"Deoxidine" Nos. 126, 512, 526, 624, 670
Type 5	"Deoxidine" Nos. 170, 171, 670
MIL-C-10578	
Type I	"Deoxidine" (Wash-off)
Type II	"Deoxidine" (Wipe-off)
U. S. A. 98-20007	"Deoxidine" No. 424
U. S. N. Appendix 6	"Deoxidine"
U. S. A. 3-213	(See MIL-C-10578)

METAL CLEANING CHEMICALS

Specification Number	ACP Specification Chemical
JAN-C-490 Grade II	
Type 2	"Ridoline"
Type 6	"Ridosol"
U. S. A. 3-192	"Ridoline" No. 3192

ACID INHIBITORS, PICKLING

Specification Number	ACP Specification Chemical
U. S. N. 51-1-2	"Rodine"

Additional copies of this chart and descriptive folders on the ACP Specification Chemicals listed above are available on request.

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We must admit obtaining even a portion of the credit toward a degree by correspondence and extension work is much harder than actually sitting in the college classroom and it will take a much longer time but if the man is interested in improving himself he will not let such an obstacle stop him.

The officer is not the only one wanting in education. The enlisted man is in the same boat, and he too can take advantage of the facilities mentioned above. For those who do not have a high school education or its equivalent, there is a General Educational Development Test consisting of five parts, which he can take. Upon successful completion of these examinations the Marine Corps will recognize him as a high school graduate for administration purposes and he can go even further and apply to his former high school or the State Department of Education within his home state for a diploma or a certificate of equivalency, depending upon the policy of the state. Such information regarding most state policies can be obtained from Unit Education Officers.

Things don't look quite so dark after all, do they? The facilities are here; all you have to do is use them.

LESTER E. BAZINET,
Pfc, USMC

Change the Form . . .

DEAR SIR:

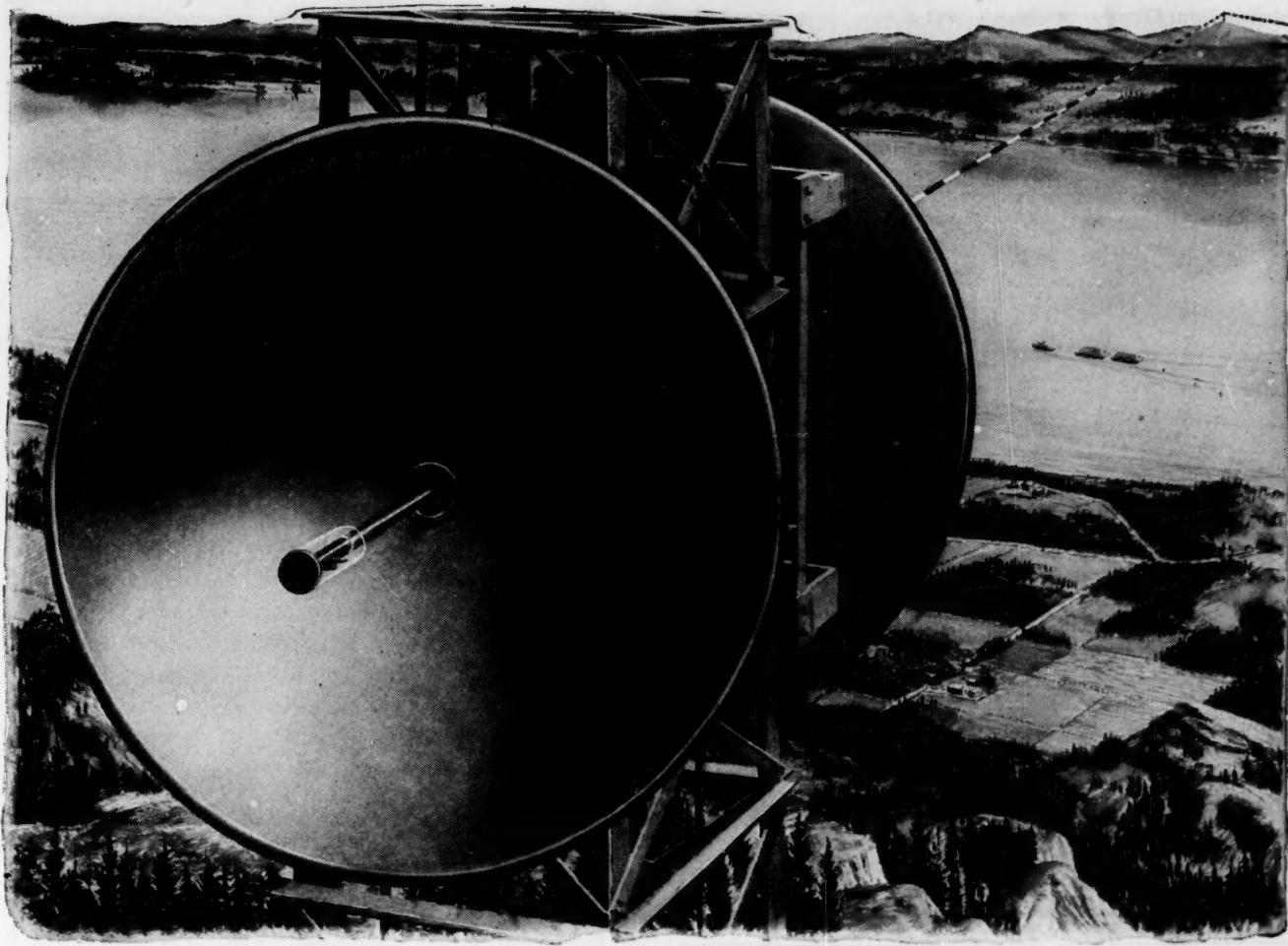
I would like to suggest that the Marine Corps supplement the present type of study material and present the required basic knowledge in an interesting form.

Should the Marine Corps adopt the publication method used by the Aviation Training Branch Office of the CNO, (Training Booklets), I, for one, believe that more Marines would be interested and actually read them. I'm referring to the type of presentation which includes cartoons, humorous situations that frequently occur to real or fictional characters in the various phases of training, depicting obvious errors and the correct procedures.

If this type booklets were made available to everyone by placing them in small racks in heads, squadrooms, barracks and reading rooms or libraries, to be used as reading material and not necessarily a text for reference nor texts for lectures, many Marines undergoing training would absorb valuable knowledge. They would teach helpful tricks and ideas that will assist individuals to learn and adapt themselves quicker to handling weapons, applying first aid, controlling a fire team and/or squad, carrying out orders and missions, field sanitation, marches, unit training problems, in fact, all of the basic military subjects.

For proof of my theory I'd like to invite anyone to pick any one of the aforementioned aviation booklets and read a paragraph or two. They are interesting reading for persons not even concerned with aviation.

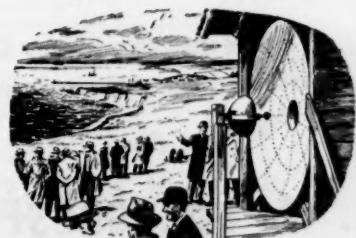
It has been proven that the infantry is here to stay and even though weapons and various phases of tactics may be altered, the basic fundamentals remain the same for the fighting foot troops. It is apparent that a great many of the



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For information on microwave communication systems, address: *Federal Telephone and Radio Corporation*, 100 Kingsland Road, Clifton, N. J.

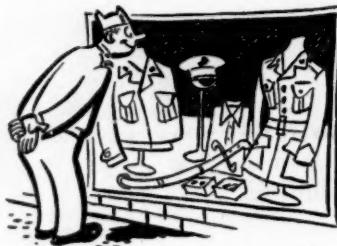


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CHARLES R. TIERNEY,
MSgt, USMCR

Geopolitics . . .

DEAR SIR:

I only recently obtained my October issue of the *GAZETTE* and so am a little late in commenting on one of the articles therein. It was gratifying to note the presentation of an occasionally maligned, usually overlooked, but nonetheless extremely important subject in Col Brown's *Geopolitics for a Marine*. It is inevitable that most of a nation's international activities are consciously or unconsciously based on geopolitical considerations. However, success in international relationships depends upon *conscious* appreciation of this study. Many world events which we tend to dismiss as insignificant assume greater importance when viewed as a part of a geopolitical theory, thus Russia's move to ring itself with satellite states "to provide friendly neighboring nations" when viewed from the standpoint of MacKinder's theory looks much more like a long step toward world domination than an attempt to assure a tranquil setting for internal development.

The two theories to which the author gave most attention, MacKinder's and Spyckman's, while seemingly dissimilar, actually have the same initial goal, i.e. domination of Eurasia. In fact, one is merely the converse of the other, but it is felt that of the two, MacKinder's theory is much more tenable. His Heartland, which he considers the base for a policy of world domination, is a compact geographical area, consisting largely of peoples of one nationality, and long used to operating as a single political entity. While certain elements of world power potential are lacking, recent experience has shown that these can be overcome. On the other hand, the Rimland of Spyckman almost completely defies unification as a single power. Aside from the vast distances involved, violent differences in nationalities, political and religious beliefs, etc., seem to be insurmountable obstacles to domination *except by the power ruling the Heartland*.

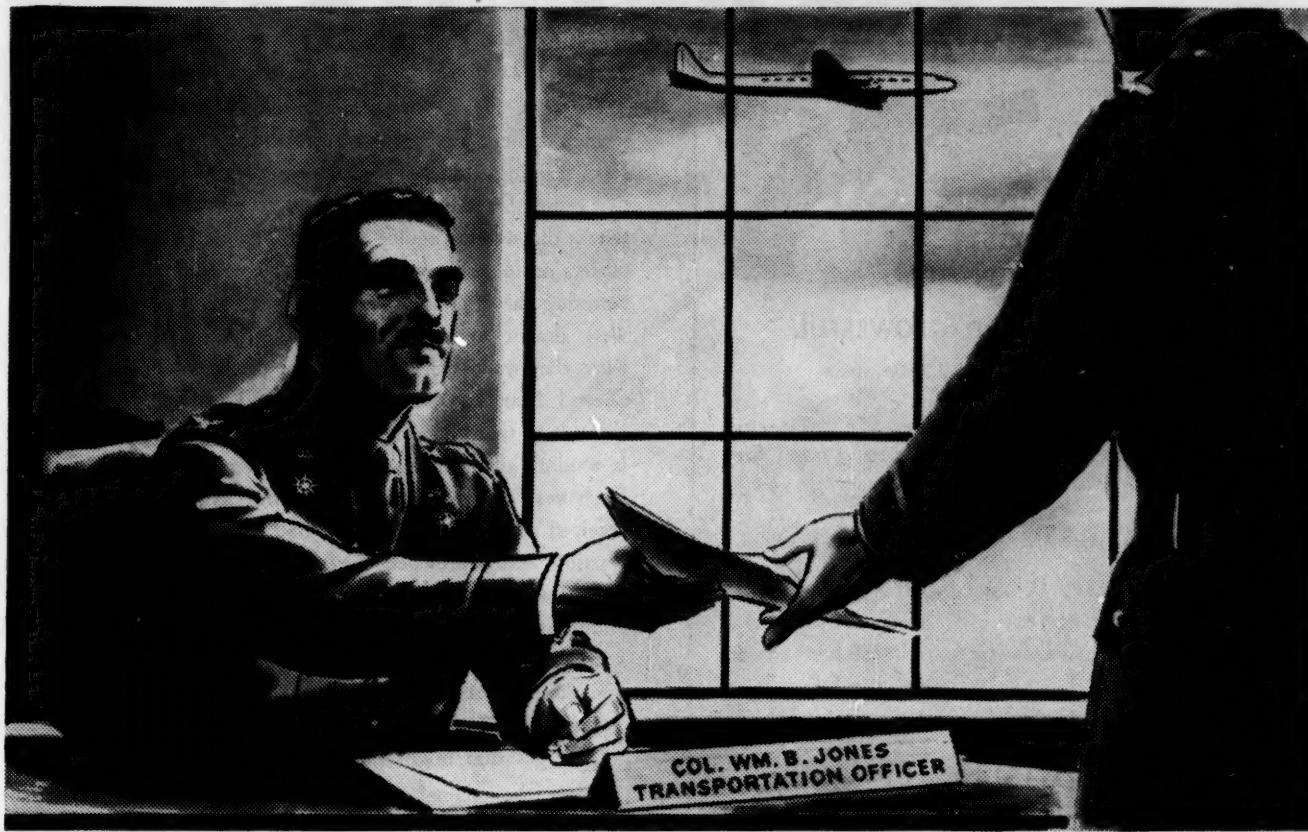
Regardless of which theory one may favor, a knowledge of geopolitics is essential to all those connected with our foreign policy, including we of the Marine Corps who are so often called upon to implement it. This knowledge will go a long way toward answering the inevitable "why are we fighting?" question which arises during every military action.

ROLLIN F. VAN CANTFORT,
1stLt, USMC

Answer to ANGLICO . . .

DEAR SIR:

As a member of the First Marine Division ANGLICO in Korea and before that the ANGLICO of the Second Division in the U.S., I feel that some sort of answer must be made to the left hand pat on the back given to the organization in the



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Z

January issue of the *GAZETTE* by LtCol R. D. Heinl, Jr.

First, as far as the peacetime ANGLICO operated, it seemed to be a more or less smooth outfit which received uniform training. It, as the colonel says, provided an administrative center for the coordination of its activities. Other things that it did was to provide a place where all of the ANGLICO officers could get together and discuss new methods or ways of bettering the old. It provided a pool from which trained men were drawn to bring the outgoing teams up to strength when they went with a BLT on one of the commitments of the Second Marine Division. ANGLICO also provided one of the things that the colonel thought should be done and that is sending the teams away for training without the division. Each year teams were sent to Little Creek, Va., where they received refresher training and had requalification firing. The wartime setup provided a repair shop with technicians who were trained in handling our special type gear, not usually found in an infantry regiment. Spares were usually carried with the company so a swap could be made without disrupting communications seriously. As for comparison with the "J" series tables, I think the improvement greatly outweighs any advantages that might have been gained under that TO.

Next the colonel makes some comments on changes or developments that would benefit ANGLICO today. With two of these, due to what experience I had in Korea before being wounded, I must take issue. The first the colonel puts in as a footnote as not deserving any consideration. It refers to the use of artillery FOs as naval gunfire spotters. He says that a few quarters would replace the spotter with the FO. This is the first time that I have heard this mentioned, although I have heard other ideas along this line discussed. What has been proposed is to use the FO as an auxiliary spotter. In an amphibious operation this would work out to good advantage to the battalion as the spotter himself cannot usually cover the battalion front alone. One of the artillery FOs boasted with an assault company could assist, sending fire missions through his radio to that of the artillery liaison officer at the battalion SAC (supporting arms center) who could pass it on to the naval gunfire liaison officer who is also a member of the SAC. This latter person then can send it on to the ship. With the artillery coming ashore several hours after the assault, it would give the FO something to do to further the battle progress. I know of an incident that illustrates this that happened a while after the Inchon landing. The artillery became out of range and was displacing; while it was doing so the FO spotted naval gunfire on an enemy attack.

The next proposal that I take issue with is that there are too many men in a team. The minimum number of men needed to carry what the colonel calls lightweight radio gear and wire equipment used by, for example, a spotting team is seven men. This is three less enlisted men than what is called for in the T/O. One of these three is the assistant spotter and team chief, leaving two more or less unused men. In the hills

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for

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WHY TAKE LESS, WHEN PEPSI'S BEST!

7

8

9



of Korea it was found that even men in good condition needed some sort of relief when they had to carry radio gear. These men served well for this purpose and also allowed for immediate replacements in case of casualties. As for the present radio gear that a team carries, I think I can say, and the team that I had would agree, that it was far from lightweight (one transmitter and receiver unit weighs about 38 pounds and the other weighs 40 plus pounds). Whenever we were on the march and had a chance to have some of our gear transported the men preferred to carry their packs and let the radios be transported.

Then to the colonel's proposals I would like to add a couple of others that came under discussion out there when we had a chance at a break from battle. One was that we should take the Naval Gunfire Platoon out of division control and have it assigned to the highest echelon involved in the operation. Then the naval gunfire personnel can be used to best advantage by using them when and where needed. This will prevent them from stagnating around the division CP when the supported units get out of naval gunfire range and will provide a pool from which any unit that needs them can get the qualified personnel. We have to get away from the island fighting concept where we Marines fight an enemy by ourselves, and must consider that just about every future operation we make will be with the Army and possibly foreign troops who might and probably will need naval gunfire support. As it happened, I was called upon to assist an Army unit in a mop-up operation. Two liaison teams went with my spotter team. We even had a complete battalion setup, a shore fire control party and a tactical air control party, working with a ROK marine battalion. As for peace time training, all naval gunfire personnel could come under Force ANGLICO. This proposal would eliminate parts of the rest of the colonel's proposals.

The other change that should be brought about concerns the TACP. At present there is one officer, a naval aviator, who is assigned to this job. He is required to work as two men, an air liaison officer and a forward air controller. I propose that the TACP be organized like the SFCP and have two teams, one an air liaison team to be a part of the SAC and advise the battalion commander on the use of air, and a forward air controller team, which will control the planes from an OP somewhere in the battalion zone of action. In Korea naval gunfire personnel performed the forward air controller job, until there were a number of casualties, with marked results.

J. E. DOLAN,
1stLt, USMC

No Longer Young and Gay . . .

DEAR SIR:

In the October issue of the Marine Corps GAZETTE there was an article entitled *No Longer Young and Gay*, proposing to train reserve pilots by a new method. Since that time I have closely watched the Letters to the Editor's column for signs

of approval of the proposed plan. In the last issue, such a letter was published.

For the past two years I have been assigned to the Advanced Training Command at Corpus Christi, Texas. For 18 of those months I was an instructor in the Instructors Advanced Training Unit where new instructors are checked out on flight training methods and procedures before starting their student instruction work, and at present am an instructor in the U.S. Naval School, All Weather Flight. From my experience in the Training Command, I believe I am qualified to express an opinion on the proposed training program. To say the least, acceptance of the proposed program would greatly reduce the present standards of Marine Aviation. I do not believe the writers of that article are fully aware of the problems involved in training a new combat pilot, and general acceptance of their thesis would be a very wrong step for procuring new Marine pilots.

Would you be interested in an article for the Marine Corps GAZETTE dealing with the training of new pilots? The article would deal mainly with current procedure for turning "Joe Civilian" into a combat pilot, reasons why the proposed program is definitely not feasible, how our present pilot training for the Marine Corps can be improved to provide pilots more specifically prepared for the Marines' primary mission, and how we can best get new blood into Marine Aviation to cope with the problem which prompted the article *No Longer Young and Gay*.

Such problems are certainly of concern not only to the future of Marine Aviation, but to the whole Marine Corps. If such an article is desired, I would be happy to comply.

JOHN H. GLENN, JR.,
Capt, USMC

ED: The GAZETTE would like very much to see an article such as you have proposed. Send it in at your earliest opportunity.

Facts . . .

DEAR SIR:

An article entitled, "Battle Facts for Your Outfit," appeared in the January *Combat Forces Journal*, written by a Company Commander in the 1st Cavalry Division. We felt, in discussing this article, that the GAZETTE, as the "house organ" of the Marine Corps, could serve a similar purpose in a different manner. In other words, instead of relying on the individual's initiative to submit an article, establish an editorial section devoted to publishing practical tips on the conduct of individuals, units and organizations in combat.

This project could be implemented in any of several ways; by setting up interviews, by sending out questionnaires, by inviting comment editorially, etc. We feel that these tips would be of vital importance to individuals and small unit commanders and should be presented to them in some manner so that they can take advantage of the information in pre-

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paring themselves and their subordinates for future assignments.

As an illustration of the type of information we think should be included in such an editorial section, we have prepared a list of questions to be used as a guide in writing the column. For instance:

1. How did individuals cope with frozen C-rations? Did they cook them with heat tabs? If so, how many?
2. For how long a period could truck, tank and jeep engines be cut off and still be started without difficulty? What were some of the methods used for starting vehicles?
3. What was done to keep water from freezing in canteens? Were they filled half way? Or were they carried empty and melted snow used for water?

These are merely samples of the type of information we feel should be published; in other words, information on natural ingenuity employed to overcome the natural conditions under which the organizations were fighting.

R. D. SHAFFER,
LtCol, USMC
J. F. CORBETT,
Maj, USMC

ED: Thanks for the suggestion. We have given this matter a great deal of thought and have taken steps to get the type information mentioned.

However, the Marine Corps has a tight security control. In accordance with Change #1 to General Order 55, the GAZETTE submits most of its Korean material to Headquarters Marine Corps for security clearance and, to date, about 50 per cent of it has been classified.

As a matter of interest, the GAZETTE does solicit material as well as publish unsolicited articles. Unfortunately, we must meet inflexible deadlines whereas our authors do not.

With all its undeniable merit your idea is not easy to put into execution. We wish to take this opportunity to invite all potential contributors of combat experiences to send their material in. Our current space rates are among the highest in our field and make such efforts worthwhile.

Leadership . . .

DEAR SIR:

It's a pity MSgt John J. Morgan received only \$5.00 for his letter in the February GAZETTE. Minimum remuneration should have been your regular rate for an article and a by-line.

Coming from an enlisted man whose rank indicates he knows what he is talking about, and from a man who has probably been on the receiving end of considerable leadership in the Marine Corps, MSgt Morgan dispenses much priceless advice to the newly-commissioned officer.

J. H. PAPURCA,
Maj. USMC

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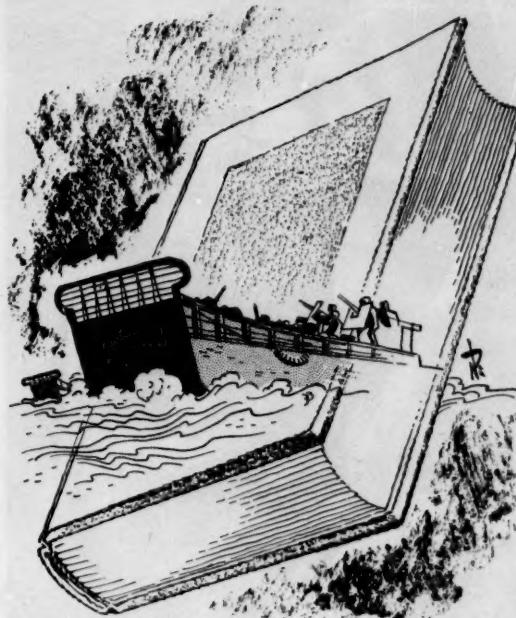
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THE LATEST FROM HEADQUARTERS

Just released for distribution are two new official Marine Corps monographs *Saipan*; *The Beginning of the End* and *The Assault on Peleliu*. Published by the Historical Division, Headquarters, U. S. Marine Corps, these operational monographs are official, accurate, and interesting. Both of these books are available through the Marine Corps GAZETTE Bookshop, with a 10% discount for Marine Corps Association members.

Saipan: The Beginning of the End \$3.25

The Assault on Peleliu \$2.50



Other official USMC books previously published and available through the Marine Corps GAZETTE Bookshop:

The Defense of Wake \$1.25

Marines at Midway50

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Bougainville and the Northern Solomons 2.00

The Guadalcanal Campaign 4.25



Organization

OUR 81MM MORTAR PLATOON AS PRESENTLY ORGANIZED consists of a platoon headquarters and two sections of four guns each. The platoon headquarters is made up of the platoon commander, assistant platoon commander, gunnery sergeant, three forward observer teams, ammunition sergeant, communication chief, messenger, the platoon commander's radio operator, and a truck driver.

Each forward observer team has in it a forward observer and a wireman. The three FO teams are directly controlled by the gunnery sergeant. We have found that in the field the FO teams are almost constantly attached to the rifle companies. Separated from the platoon, except for verbal contact when fire missions are called, these teams require someone to look after their needs. This job has been given to the gunnery sergeant.

Each of the two mortar sections consists of a section headquarters and four mortar squads. Section headquarters is composed of the section leader, gunnery NCO, ammunition sergeant, computer, talker, and a truck driver.

We have made only one change in the mortar squad and that change is only one of title. Job titles cost little but we have found that in many cases they can be soul-satisfying. The No. 1 ammunition carrier, despite his old title, seldom carried ammunition but did get the job

Reorganized 81mm Mortar Platoon

By 2d Lt Eugene J. Paradis

ED: Soon after the 1st Marine Division landed at Inchon and began its fast-moving attack which resulted in the capture of Seoul, the Editors of the Marine Corps GAZETTE received word of an unusual 81mm mortar platoon in one of the battalions of the 1st Marines. According to our word, the platoon had been reorganized into two four-gun sections by adding two more guns to the number specified by the T/O and T/E and by shifting personnel in order to make up two more gun crews. Our informant went on to say that the reorganized platoon had performed in such a way as to excite considerable comment from interested observers, and that the comment was all favorable. As a result we wrote directly to the author of this article, an officer who reorganized his platoon to achieve greater functional efficiency and better opportunities for his men. His reply — this article — came to us from Chosin Reservoir, dated 5 December 1950. His accompanying letter stated that at that time all of his conclusions were based on the use of the platoon in situations characterized by rapid advances).

of carrying the heavy base plate. In our organization his title has been changed to No. 2 gunner. Base plate carrying is still drudgery of a kind seldom equalled in other units, but close observation has shown us that the prestige of the base plate carrier has been raised considerably simply by changing the name of his job.

I have mentioned two new and strange positions in the mortar platoon — the gunnery NCO and the computer. Prior to leaving Camp Lejeune, I had the opportunity of procuring a copy of FM 23-90 (Revised) 1950. This is the finest and most complete work ever written on 81mm mortars. The Comanche system of fire control has been used in the Marine Corps for some years now, but small unit leaders have been stumbling around through the trial and error method in an effort to apply its principles. FM 23-90 should be used by all 81mm units. The Comanche system will work, but it takes some schooling.

After reading the book, and just prior to leaving Camp Lejeune, we began intensive instruction in this "new"

method of fire control training. A fire direction center was trained and established. No longer does the gun-target-line worry anyone, nor does everyone hold his breath while firing the first round after the battery goes into position. Each gunnery NCO and computer handles fire missions for their own sections. The FDC functions directly under the supervision of the assistant platoon commander. In the event it becomes necessary to displace or attach a section, the FDC is capable of operating independently.

The reorganization of our platoon according to the pattern indicated was not done for functional efficiency

alone. We feel that it also provides more incentive to the Marines who fill the positions. Mortar men should be trained and then given the opportunity of continuing to be mortar men. For this idea to work, there must be provision for promotion to positions of greater responsibility, each of which requires more experience and technical proficiency. A new man with no experience in mortars generally enters the platoon as an ammunition man. Our system provides him an opportunity to progress in the following manner. After serving as an ammunition man, and provided he shows interest and ability, he moves up to No. 2 gunner. While it is true, as indicated



earlier, that this gives him the rather unwelcome job of carrying the base plate, it also gives the opportunity of learning how to be a gunner. He automatically becomes heir apparent to the gunner's job. After he is promoted to the rank of corporal, he may become No. 1 gunner or go to the FDC as a computer.

If he remains as gunner, he capitalizes on his training as an assistant gunner. If he goes to the FDC as a computer, additional training will be required but he will be ready for it. In the field the choice probably will be dictated, but, regardless of which position the man moves into, it remains that he is moving up the ladder in his chosen field.

Before the man is promoted to the rank of sergeant it should be mandatory that he receives training and experience as a computer. Likewise, before he is promoted from buck sergeant to staff he must be trained as an observer and show proficiency in that position. From observer to gunnery NCO, the man climbs the next rung in his ladder of mortar experience — an important one. As gunnery NCO he is responsible for the FO teams and looks out for them when they are attached to the rifle companies, as mentioned earlier.

His next promotion to the rank of technical sergeant makes him eligible to head a section. By now he is a well-rounded mortar man, and when he makes master sergeant he is ready to take over the duties and responsibilities of the senior NCO in the mortar platoon.

Communications

It is ridiculous to think of a mortar platoon or artillery unit attempting to support an infantry battalion without forward observers. This was the problem we faced the first week ashore from Inchon. We ran out of wire before reaching company objectives. The situation moved so fast that resupply of wire, had more wire been available, was impossible. At Yongdongpo-ri an enemy signal warehouse was found and the platoon equipped itself with recaptured standard SCR 300s. Each of the three forward observers was provided a radio, one was used at the FDC, and a fifth was used by the mortar platoon commander while conducting reconnaissance or for calling fire missions from the battalion OP. The platoon commander's radio also was used for displacements or when attaching a section.

No further attempts were made to carry phones or wire. Whenever a defensive situation arose, FOs manned their radios and wiremen returned to the gun position, drew wire and phones, and returned to their OPs. The support this platoon was able to deliver, after communications were improved through use of radios, is emphasized by a comparison of ammunition expenditures for the first two weeks ashore. During the second week, and after the radios had been obtained, we increased our amount of ammunition fired by 1,000 per cent. All ammunition expended was observed and adjusted.

Employment of the Mortars

The 81mm mortar, as has been stated in text and on lecture platform, is the battalion commander's weapon of opportunity. Yet in many instances a battalion commander will directly support each of his rifle companies with a section of 81s. Many times in the attack his target of opportunity will appear and to his instant chagrin he remembers that all three of his sections are busy supporting the attacking rifle companies.

Our platoon always held in reserve two guns for battalion fires. These two guns were manned by good gun crews and it was specified that these two guns would always be immediately available to the battalion commander. When not firing for battalion, the guns were used to reinforce fires in support of the company that needed them most. Utilization of these fast and capable gun crews on two "floating" guns has stood us in good stead in many instances.

FDC

The fire direction center has demonstrated conclusively to all those who have had an opportunity to observe it function that here is something for the 81s that should be here to stay. To date, (Ed: 5 December) after expending over five units of fire, we have had only two of our rounds fall in our own lines. Both were unavoidable. One occurred while we were firing in support of an out-

post that was cut off. The range was in excess of 4,000 yards. The observer was calling his fire approximately 50 to 75 yards in front of his position with the outpost. The other short round was from the cold tube of a gun whose gun book showed a record of over 1,700 rounds fired. In this instance the temperature was about 18 degrees above zero. This round was a WP smoke and, characteristically of the medium round, it came out end over end. Its intended range was 1950 yards but it fell a good 500 yards short. Fortunately it was a dud.

Displacement

Echelonment has been reduced, through our reorganization into two sections of four guns each, to the movement of two units. At the same time, the fire power available during displacement has increased. By using four guns in each section, rather than two guns in each of three sections, as called for by the present T/O, we have two firing batteries. With the three-section platoon, and particularly when a section is placed in support of each of the three rifle companies, the platoon commander is likely to find two sections displacing simultaneously. This will happen in a fast moving attack. The result is that the battalion only has two guns available on instant call during the displacement. Only one company is being supported. No weapons are available to the battalion commander for targets of opportunity.

With the two four-gun sections, displacement is effected in this fashion: The platoon commander makes his usual reconnaissance, radios the assistant platoon commander to send the first section forward. Under the supervision of the gunnery NCO, the designated section moves up to its assigned position. The other section continues to support the attack—with four guns. After the first section has registered in, the assistant platoon commander is notified to bring the second section forward. Upon the arrival of the assistant platoon commander with the second section, the platoon commander returns to the battalion OP, SAC, or commences another reconnaissance.

Once the two sections are in position, the battalion again has eight guns in support of the attack. It always has a minimum of four, even during displacement. With the three-section organization, the best that can be hoped for in the way of support during displacement is a maximum of four guns. Usually, in a rapidly moving attack, the battalion commander must depend on one section of two guns being constantly available. These two guns *can* support one of the rifle companies, they *can* be switched to support either of the other two rifle companies, or they *can* be used by the battalion commander on targets of opportunity. They *cannot* do all three things simultaneously. The four-gun section not only *can* but *has* in Korea.

US MC

Korea Awards

Legion of Merit:

LtCol Arthur A. Chidester (2d)

Silver Star:

2dLt Lamar G. Crawford, Jr., 1stLt Howard H. Harris, Capt Kenneth J. Houghton, Cpl Monte W. Kerr, Cpl Earnest F. Lee, PFC Trinidad M. Lopez, PFC John A. Martz, PFC Richard E. McDurmin, Pvt Robert McKinney, 1stLt Paul V. Mullaney, 1stLt William J. Nietschmann, Sgt Richard E. Oly, and SSgt Ernest G. Pappenheimer.

Bronze Star:

1stLt Gerald P. Anderson, Cpl Lucian W. Anderson, Capt David W. Banks, PFC Ralph T. Barton, PFC Harold R. Bates, TSgt Kenneth C. Boston, 2dLt Phillip C. Brannon, PFC Wallace J. Brannon, Cpl Homer W. Brantley, SSgt Donald D. Bright, Cpl Francis B. Burns, Sgt Michael L. Busak, Jr., Cpl Phillip E. Butler, Cpl James E. Byrne, PFC Bobby C. Carr, PFC Lewis C. Carrier, Cpl Richard D. Carroll, Sgt David L. Carter, Sgt Maurice L. Cassotta, PFC Joseph R. A. Chartrand, Sgt Charles E. Collins, SSgt Bruce H. Corson, 1stLt Theodore T. Culpepper, Jr., TSgt Francis P. Cumiskey, 2dLt Bryan J. Cumming, 1stLt James K. Dant, PFC Edgar J. Dawson.

PFC George J. Decker, Sgt Felix Del Guidice, SSgt Jack P. De Loach, Sgt Norman J. Demond, Cpl Donald R. Dempsey, 2dLt Lewis H. Devine, 2dLt Robert R. Dickey, III, Sgt. Robert J. Dolby (two), Sgt Richard I. Duncan, Cpl Paul S. Ebensteiner, Sgt Frank E. Echols, PFC Robert R. Eggleston, 1stLt Robert B. Ettenborough, SSgt Robert J. Fisher, Jr., PFC Lundy Fletcher, PFC Herman Foley, SSgt Charles D. Foster, Cpl Jack D. Gaines, MSgt Thomas J. Gallagher, PFC Hector D. Garcia, Cpl Norman L. Gibhardt, PFC Gaston J. Gillard, Jr., MSgt William A. Grider, Sgt James T. Hancock.

2dLt Edmund W. Hanlon, PFC Joe H. Hatchel, PFC Nolan G. Henry, PFC Robert N. Hortie, Sgt Ralph E. Jackson, SSgt Joseph A. Jagiello, Sgt Clyde W. Keel, CWO Donald E. Kent, Sgt James Kenton, Sgt Jack F. Kilger, PFC Francis H. Killeen, Cpl Tommy M. Kinnamen, SSgt Charles A. Kleszynak, PFC Stanley G. Kohler, PFC Richard J. Krause, MSgt Edward H. Krepps, Cpl Manford L. Langley, SSgt Floyd Leach, 1stLt James E. Machin, Sgt John N. Malner (two), Sgt Vincent J. Marino, SSgt Leonard Markowsky, Cpl Alan E. Martin, 2dLt Ronald A. Mason, Sgt Otto H. Maucker, TSgt Alvin F. Maxwell.

Sgt Kenneth W. May, 1stLt William A. McClelland, PFC Lewis L. McDonald, TSgt Martin A. Miller, PFC James R. Mills, PFC Earl W. Mitchell, Cpl John D. Mixom, Sgt Raymond S. Morales, PFC Anthony F. Morelli, Cpl James A. Morgan, TSgt Forrest E. Moser, SSgt Lawson A. Musick, Maj Reginald R. Myers (2d), PFC William T. Olson, Cpl Charles V. Owens, 2dLt Willard S. Peterson, Sgt Wendell H. Pigman, TSgt Leonard J. Potocki, Sgt James I. Poynter, Sgt Pete F.

Ramirez, PFC James E. Ray, Sgt Joseph Rea, 2dLt John A. Reames.

LtCol Robert W. Rickert, Cpl John P. Roach, SSgt William E. Robinson, Sgt Keith L. Sant, 1stLt Harold E. Savage, PFC August J. Shumaker, PFC George E. Sims, Sgt Fred F. Skinner, 2dLt Warren J. Skvaril, PFC Michael J. Smith, PFC Sherman A. Somers, 2dLt Charles R. Stiles, Syt Malala S'ua, 1stLt William Swanson, PFC Melvin L. Thompson, Cpl Robert E. Thorsen, PFC Paul A. Varn, MSgt Cornelius Visser, SSgt John B. Waryha, PFC Halla D. White, TSgt Roger J. White, PFC Donald L. Wigley, Capt Myron E. Wilcox, Jr., SSgt John L. Wilkinson, 2dLt Kenneth K. Williams, 1stLt Wallace L. Williamson, and PFC Richard D. Wolfcale.

Air Medal:

Capt Leon J. Bernal, Jr. (2d), Maj Arthur R. Boag (12th), TSgt Lloyd B. Britt (2d), Capt Gordon W. Caldwell (4th), 1stLt Truman Clark (2d), Capt Otis W. S. Corman (3rd), 1stLt John D. Cotton (4th), 2dLt Frank W. Daugherty (4th), Capt Richard F. Dyer, 1stLt Lloyd J. Engelhardt (3rd), Capt George B. Farish, 2dLt Edgar F. Gaudette, Jr. (8th), 1stLt Kenneth G. Hadcock, Capt Edward E. Hammerbeck, 1stLt Curtis D. Jernigan (13th), TSgt Loras J. Keegan, 1stLt James P. Mariades, Capt Robert E. McClean, 1stLt Max Nebergall, 2dLt Thomas D. Odenbaugh, Jr., 1stLt Roy E. Oliver, TSgt Guss H. Pennell, Jr., Capt Arthur E. Phillips (2d), Capt Franklin N. Pippin (6th), Capt Grady W. Ray, 1stLt Walter E. Sparling (2d), Maj Frank R. Stewart, Jr., Capt Eddie C. Torbett (4th), LtCol Ellsworth G. Van Orman, and Maj Michael F. Wojcik (2d).

Commendation Ribbon:

PFC George W. Bush, 1stLt Edward E. Camporini, Cpl Ralph J. Cornell, Jr., Sgt Billy F. Cox, Sgt Bernard J. Cunningham, TSgt Lamar D. Dinkins, MSgt Paul H. Dodson, PFC Allan L. Elrod, Sgt Bruce E. Embrey, Sgt Robert B. Gault, PFC Julius C. Gevatosky, Cpl Harold W. Hornett, Cpl Bret F. Kelly, WO Kenneth W. Mize, SSgt James F. Moore, TSgt Robert R. Reaney, SSgt Dolphus C. Reeves, Cpl Ramiro Saucedo, PFC James H. Sikes, MSgt Marion R. Stocks, 1stLt Elmer J. Stone, CWO Everett L. Tennyson, Cpl Robert E. Torbitt, SSgt Calvin G. Tuck, SSgt Ernest J. Umbaugh, PFC Kenneth R. Waddell, Cpl Ralph A. Wichmann, and 1stLt Robert D. Winn.

Letter of Commendation:

PFC William D. Bennett, PFC Charles K. DeKovic, Jr., PFC Stanley L. Elbie, PFC Glynn B. Heath, PFC Richard J. Hawley, PFC Charles R. Johnson, PFC Roger K. Johnson, Cpl Alvin J. Lewis, PFC Raymond C. Matthias, PFC Warren L. Maynard, PFC Roger B. Moody, PFC Patrick J. O'Loughlen, PFC Edward E. Sandelius, PFC Michael E. Schmidt, PFC Russell L. Smith, PFC Donald R. Waldemar, and PFC Harold O. White.

"And the Lord was with Judah: and he drove out the inhabitants of the mountain: but he could not drive out the inhabitants of the valley because they had chariots of iron."

Book of Judges, 1-19.

LET'S NOT FOOL OURSELVES. AN ARMORED COUNTER-attack in the first hours of a landing in the late Pacific war never became a reality. But in any future opposed landing there is an excellent chance that the enemy will employ tanks—good ones and in considerable numbers—to smash at our assault infantry soon after they have touched down. There is nothing very profound about this latter observation and it has been commented on in past issues of the GAZETTE, with the blue ribbon going to LtCol A. J. Stuart's notable article entitled *Strengthen the Beach Assault*.

LtCol Stuart advocated landing tanks very early in the amphibious attack, perhaps even preceding the leading infantry. His views on the early landing of armor have much to recommend them, since the best anti-tank weapon is still the tank—and that statement does not overlook the existence of the recoilless weapons and the 3.5 bazooka. It's probably safe to say that there appears to be a growing body of opinion within the Marine Corps that would like to see the tanks landed very much earlier than was usual in our operations in the Pacific. Nevertheless, there is an astonishing lack of suggestion

URGENT

on the topic of just how we are going to get these tanks of ours ashore at H-hour.

We finished World War II with the M4A3 tank which weighed about 33 tons and could be fitted, with a shoe-horn, into the standard LCM. Our current tank is the M26 weighing about 45 tons, and too large for the old LCM. Short of building bigger and better LCMs, our only method of landing the M26 is by means of the LSUs or the larger types of tank-carrying ships. If the hostile reaction to our landing is so meek that we can with impunity bring LSUs, LSMs, LSTs, etc., right in and beach them at will, why then of course there is no problem. But this is the best case and should not be the basis for our planning. Take the less favorable and more likely conditions we would encounter in making an opposed landing against an enemy well dug-in, with artfully concealed weapons, and sufficient tanks on hand to make a nightmare reality of an armored counterattack, what then? Will anyone seriously suggest that we can afford to clutter the site of our selected landing area with the holed, broached, burning hulks of such excellent targets for enemy gunfire as are represented by these same LSUs, LSMs, and LSTs? On the other hand it's hard to convince the average infantryman that tanks loaded in



LAND THE TANKS

By LtCol Rathvon McC. Tompkins

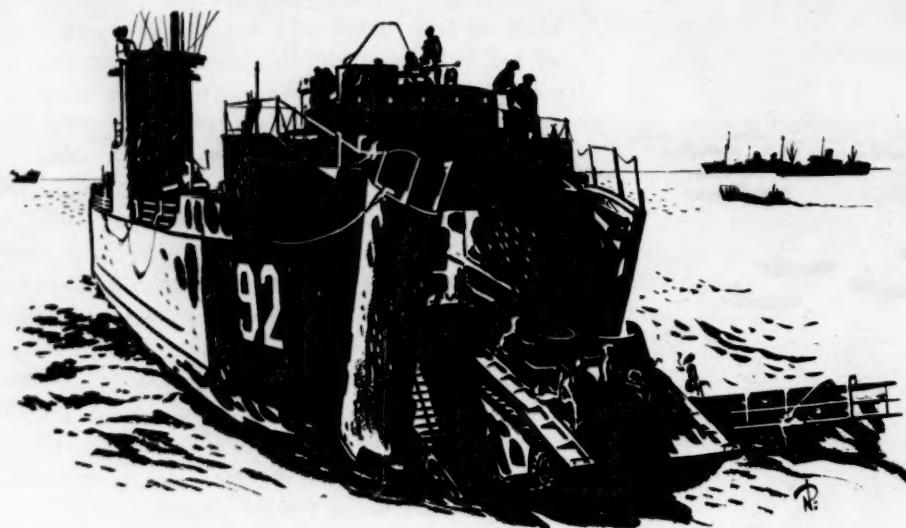
landing ships sitting 6000-8000 yards to seaward are going to be much good to him when he's faced with the pressing problem of stopping enemy tanks as they come roaring down Beach BLUE-2. It won't do to tell this infantryman, whose personal armor-plating is provided by a cotton shirt and a field jacket, that the tanks will be whistled in when the situation on the beach is sufficiently tidied up to permit the landing ships to stand in to the shore with a reasonable chance of survival. It all adds up to one thing: from here on out we should make every possible effort to get our tanks to the beach with the leading infantry.

Simply building a new and larger LCM for the M26 is not a wholly satisfactory answer to the dilemma of getting supporting armor onto a defended shoreline. Tanks carried in individual LCMs must be transported to the target in LSDs, a type of landing ship which was in short supply throughout all of World War II. But even granting that sufficient LSDs could somehow be made available, we still would have solved only half of the problem. The other part of this vexing question comes into focus when, in rear of the immediate landing area, we find

another water barrier which must be crossed in turn. An example might be the Inland Waterway behind the Onslow beaches at Camp Lejeune, or the inundated areas that were to be found to landward of some of the Normandy beaches. Moreover, there is always the allied problem of getting tanks to the far shore in a river crossing. In either of these last two instances, the water barrier behind the immediate landing area or the river crossing, the provision of a new LCM is not the solution for giving the infantry the immediate and powerful support afforded by the fighting tank. If there were some way to make our tank swim it ought to go a long way towards closing the gap that now exists between the time the infantry gets ashore and the time the first of our tanks can go into action with them.

This crying need for close support during the early, critical phase of the landing was recognized during the last war and three types of amphibious tanks were developed in an effort to provide an acceptable solution. It will be no breach of security to review their characteristics, since all three types have been discussed previously in various journals and books.

Securing the beachhead must be done in face of the enemy's ever present capability of counterattacking with armor. Something must be done to get tanks ashore with the leading infantry. What we need is a truly amphibious gun tank



The first of these World War II types, the LVT (A), was well known to all Marines. A direct descendent of the Food Machinery Corporation's "Alligator," the LVT (A) was not a *tank* in the strict military sense of the word and the fact that it was referred to as an "armored" amphibian was a sort of relative, courtesy title. Nevertheless it was a member in good standing of the amphibian family, in that it could churn its way through the water at a speed of about 5 knots by utilizing special hydraulic grousers which formed an integral part of the tracks. The LVT(A) presented a very small target when afloat since only the turret and that portion of the hull above the tracks was exposed. When the tracks could bear on a solid surface, it could wallow inland at a speed of 10 to 15 miles per hour, tearing up the roads as it went. Once out of the water the LVT(A)s could be effectively employed as artillery, firing from a hull defilade position. But when ashore this amphibian had no business running around the countryside pretending it was an armored fighting vehicle if the enemy had anything like a 37mm and was content to wait for one of these thin-skinned monsters to come hobbling along, eight feet tall and full of nice flat surfaces.

Since, for safety's sake, our supporting fires must move inland and to the flanks while the leading infantry waves are still several hundred yards from the beach, the LVT(A) was considered invaluable by reason of its ability to fire its turret-mounted 75mm howitzer during the run-in and thus keep continual fire on the enemy defenders. However, this capability must be carefully evaluated as the LVT(A) while underway to the beach did not provide a very stable gun platform if any kind of sea was running and its fire could scarcely be called accurate under such conditions. Its ability to support the infantry in the fight ashore was severely conditioned, as mentioned in the preceding paragraph, by lack of adequate armor.

The second type of amphibian tank developed during the late war utilized the BB device, which was so named for its co-inventors—Majors Berg and Blankenship of the Army Ordnance Department. The BB device incorporated a system whereby metal pontoons, temporarily attached, supported an ordinary gun tank while it was water-borne. Propulsion in the water was accomplished by the friction of the regular tracks and steering was done by means of tiller ropes leading to rudders fit-

ted to the after end of the tank. The tank was suspended in the water so that only the turret and a few inches of armor below the turret were exposed above the surface. Although standard waterproofing kits had to be used with this device, it was possible, although not always practicable, to traverse the turret within the limits of the engine-shroud and so fire the gun on the run-in. Tanks equipped with the BB device had a speed of about 3 knots in the water and were very difficult to maneuver. The greatest disadvantage, however, lay in the pontoons themselves. Besides being extremely heavy they not only increased the width of the standard tank by a few feet, but also tripled its length! Calculate how many tank landing ships would be required to lift a Marine division's tanks equipped with this device and the figure will be staggering.

The pontoons were jettisonable once the tank landed on a firm surface and then you had a normal gun tank. But so long as the flotation device was in place, a tank so equipped had an angle of approach of less than 15 degrees. Eventually the lack of maneuverability while in the water, great weight of the equipment, excessive shipping space requirements, and the extremely flat angle of approach required to land, were considered disadvantages of such magnitude that this type of amphibian gear has since been discarded. It is interesting to note in passing that the Japanese developed a tank flotation gear along the same general lines as the BB device, but it is not believed to have been used operationally to any extent.

The third of World War II's amphibious tanks was the DD or duplex drive and it had a curious cosmopolitan history. The principle on which the DD tank operates was discovered by Archimedes in the Second Century B.C. when he found that the volume or weight of a fluid displaced by a floating body is equal to that of the floating body. But jump the story forward to England in 1938, the year before World War II broke. It was then that a

Hungarian by the name of Straussler, a naturalized British citizen, began pestering the War Office with some ridiculous idea he had about making a tank swim by utilizing the principle of the displacement of a floating body. Although it was recognized as far back as 1919 that a military requirement existed for an amphibious tank, this matter together with all tank projects in general was shelved shortly thereafter in response to a widespread disinterest in all things military. It is not surprising therefore that the planners in Whitehall, with World War II on their doorstep, had no time for crackpot schemes. Unable to get any official backing, Straussler's idea caught the fancy of Gen Sir Percy Hobart, a distinguished retired army officer living in the south of England. Working entirely on their own, by 1943 the two had produced a Valentine tank equipped with a practical flotation device which was later named the DD. How they were able to procure a British Valentine tank on which to experiment at that time in the low ebb of England's fortunes is a story in itself. At any rate, the authorities in the War Office, always able to recognize a good thing when it hit them in the face, quickly adopted the DD device for the Gen Sherman tank which was then replacing the Valentine tank in the British Army. In spite of the devious path followed before it was officially adopted and put into quantity production in American factories, the DD tank remained one of the best secrets of the war.

The DD tank was nothing more or less than a normal Sherman tank fitted with a flotation device and a simple power take-off to drive a set of propellers. When so equipped the tank could swim in from the tank-carrying ship at a speed of about 4½ knots and negotiate a scale 3 sea (five-foot surf). It could also assault across rivers and lakes, subject to its ability to get up the far bank. The hull of the tank was waterproofed up to the level of the trackguards where the bottom edge of the flotation device was secured. The flotation device consisted of a canvas screen held in position by steel struts and pillars. When the pillars were raised pneumatically the canvas screen formed an envelope around the upper part of the tank, extending above the turret and thus preventing the firing of the gun while the screen was in position. While the tank was waterborne, steering and propulsion were achieved by pivoted propellers mounted between the tracks at the after end of the tank, connected to, and driven by, the rear idlers. If necessary the tank could be completely buttoned up and navigation accomplished with special periscopes for the driver and tank commander. The canvas screen was impervious to small arms fire and a bilge pump with a capacity of 45 gallons per minute took care of any water that might be shipped while underway. The DD equipment added nothing to either the length or the breadth of the standard Sherman tank.

When coping with water less than nine feet in depth,

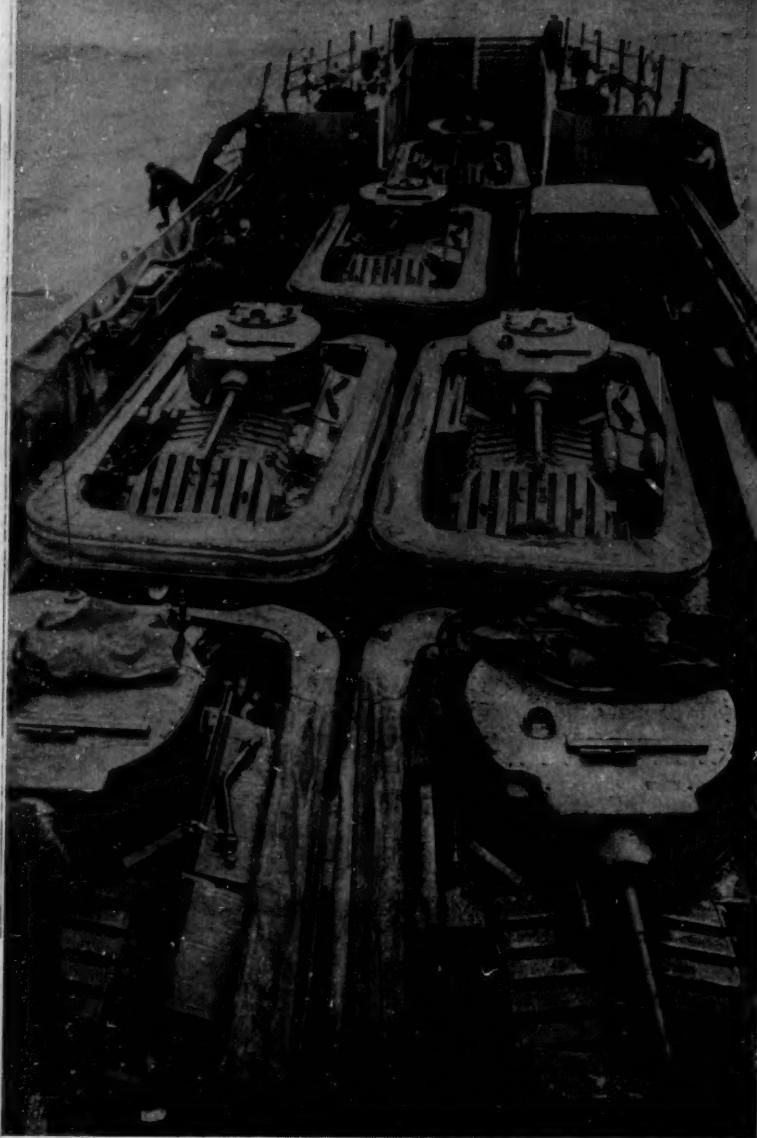
the DD tank can crawl, as opposed to swimming in greater depths, by utilizing its tracks instead of the propellers. In the British service, which prescribes tanks preceding the leading infantry in the amphibious assault, the DD tanks initially took a water defilade position on grounding, lowered the front part of the screen, and drenched the beach with cannon and machine gun fire. The back half of the screen was kept in the raised position to prevent following seas from engulfing the tank.

The DD tanks were used for the first time in the Normandy assault. A heavy sea was running in the Channel with waves 5-6 feet high. A strong on-shore wind piled the surf onto the landing beaches and the hydrographic conditions were anything but favorable for the debut of the Allies' secret weapon. The British water-launched a total of 130 DD tanks, of which some 80 reached shore. The remainder of the DD tanks belonging to the British armored brigades, and not launched due to the high seas, were eventually landed directly on the assigned beaches after the infantry had crossed them. The plan of the U. S. First Army called for three separate U. S. tank battalions, the 70th, 741st, and the 743d, each to launch two companies of DD tanks to precede the leading assault waves on Omaha and Utah beaches.

Off Utah beach, the 70th Tank Battalion was fortunate in being able to launch in a sort of bay where the sea was only moderately rough. Of the 34 DD tanks assigned to this battalion, five were lost when the LCT transporting them hit a mine and was sunk; one sank while on its way in to the beach when it passed directly under the lee of a rocket ship just as a salvo was being fired; the resultant blast caused the tank's canvas flotation screen to collapse. The remaining 28 DD tanks swam ashore under their own power and rendered invaluable assistance to the hard-pressed infantrymen of the 4th Division.

The other two tank battalions were assigned the mission of leading the assault waves of the 1st and 29th Divisions against Omaha Beach. The sea here was the roughest on the entire invasion front and the wind so strong that the tide was swept up on the beaches as much as 30 minutes ahead of normal conditions. The 743d Tank Battalion was accordingly ordered not to launch their DD tanks as planned and they were later landed directly on the beach from the tank landing ships. The 741st Tank Battalion, however, launched their DD tanks according to schedule at H-50 minutes, in spite of the appalling conditions. Of the 34 water-borne DD tanks belonging to this battalion, only five reached the beach—the remaining 29 foundered in the rough seas. In both the British and American sectors very few personnel were lost due to the sinking of DD tanks since the crews were equipped with Davis escape lungs and the Navy was quick to retrieve survivors.

In August of the same year, during the invasion of Southern France, the U. S. VI Corps employed 36 DD



Stowed in an LCT with flotation devices collapsed, these British DD tanks occupy a minimum of space.

tanks in the initial assault. Of this number, 16 were landed directly on the beach from their LST's; 20 were water-launched and all but two of these reached the assigned beach and went into action. One of the two which failed to reach the beach hit a mine and the other was swamped by the wake of a gunfire support ship which passed too close aboard.

So much for World War II's amphibious tanks. From behind the door here it would seem that the DD type of tank comes closest to answering the question of how to get fighting tanks ashore with, or preferably preceding, the leading waves of infantry in an attack on a defended beach, which is, after all, one of our main items of stock. The tank employing the DD device does not take up additional critical shipping space beyond that required for a normal gun tank. It provides the infantryman with immediate and heavy close supporting fires. It is well armored and, unlike the LVT(A), can fight enemy tanks and guns. The DD type tank can cross water barriers to landward of the beaches and subsequently reinforce the

bridgehead of a river crossing long before the engineers can construct even the simplest type of foot bridge. Like any other gun tank the DD can, of course, be fired as artillery provided the necessary fire control measures are available. It cannot fire its main armament during the period when it is water-borne and the flotation screen is raised; offensive action while swimming is limited to firing the turret-mounted .50 caliber machine gun. Is this, after all, such a damnable limitation? The shock effect of a modern naval gunfire preparation immediately preceding the landing is of such intensity that very often there is a lull in enemy activity lasting anywhere from a few minutes to half an hour or more. But even discounting the existence of this perhaps controversial "lull," we should take another factor into consideration. If the speed of the landing craft and the DD tanks is taken as four knots, and our supporting fires have to lift inland and to the flanks when the leading waves approach within 300 yards of the beach, there will be less than 2½ minutes before the DD tanks have grounded, lowered the front of their screens, and commenced pounding the beach with machine gun and cannon fire. In return for less than 2½ minutes when some type of HE is not being sprayed at the beach, we have provided the infantry with the powerful support of a real tank just when he needs it the most.

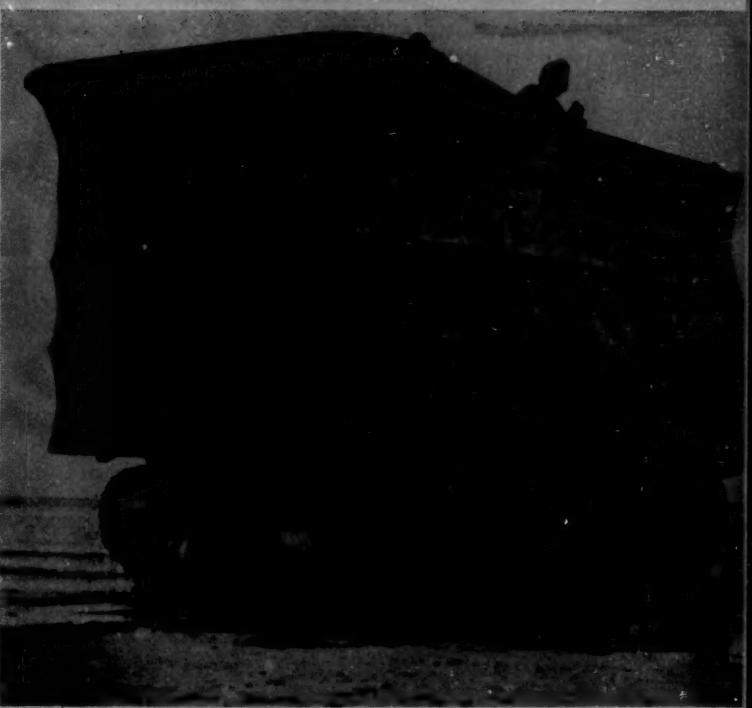
ADMITTEDLY the DD tank in the state of development reached in World War II was an imperfect instrument, particularly with regard to its relative sensitivity to rough water. But it is the only practical device so far developed which makes a true tank amphibious. We have a great need for getting our tanks in to the beach either at H-hour or immediately thereafter. If some kind of flotation device is employed to land the tanks on the defended beach, it should be one that does not substantially increase the tank's normal dimensions or in any way interfere with its normal land capabilities. It might be possible to improve the sea-keeping qualities of the DD type tank by increasing the capacity of the bilge pump and providing some kind of a quick-release *top* to prevent shipping excessive amounts of water. It may be possible to DD the present M26, or it may be that the only way to get the M26 ashore early is by providing a new and improved LCM. How we'll get it across a river in that case is another question.

But whatever solution is adopted, be assured of one thing. There is nothing quite as invaluable and comforting to the infantry as the presence of our fighting tanks ashore and in action. And the sooner they get there the better, for until they do we will continue to have the specter of the rifleman, feeling as naked as a jaybird on the most lonely spot known to man—an enemy beach—equipped to fight tanks only with what he can carry ashore.

USMC

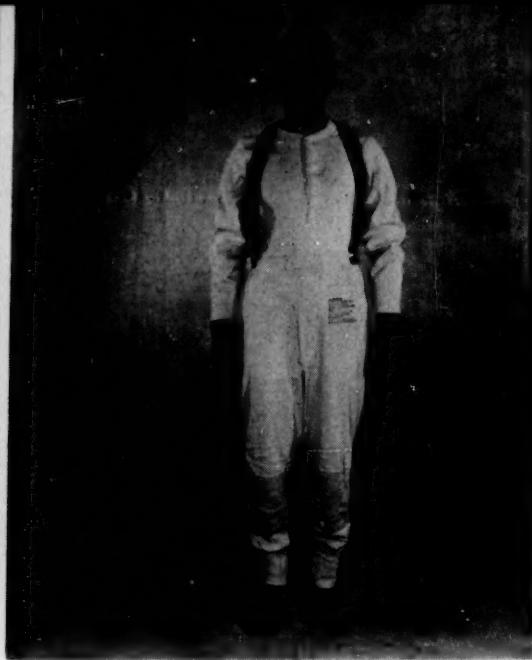


Although the World War II duplex drive tank left something to be desired, it was a step toward solving the problem of making a true tank amphibious. Flotation gear is based on Archimedes' principle of displacement. When waterborne, the tank is propelled by pivoted screws driven by the rear idlers. Canvas screen is raised by pneumatic device and masks the tank's main armament when waterborne. Rough seas spell trouble for the DD tank because of limited capacity of bilge pumps. Increased-capacity pumps and a quick-release top would help correct this.

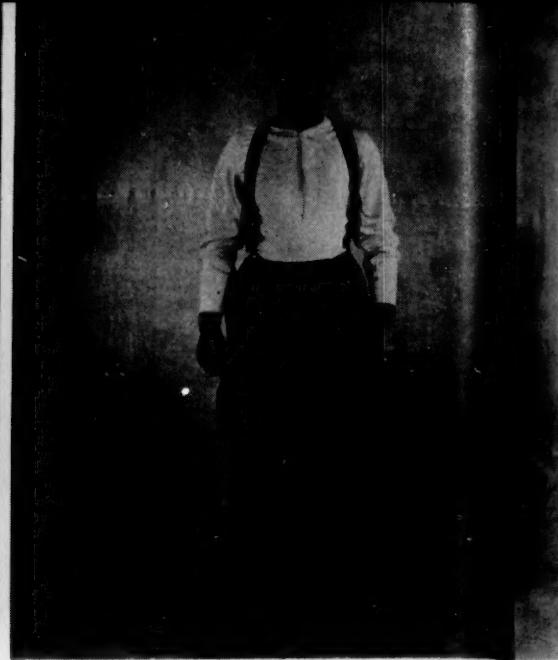




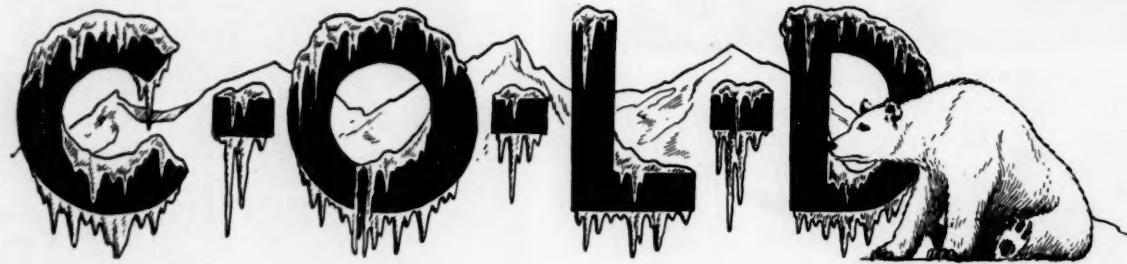
Arctic undershirt, drawers, and suspenders.



Cushion sole socks are added to underwear.



Intermediate trousers, two pairs of ski socks.

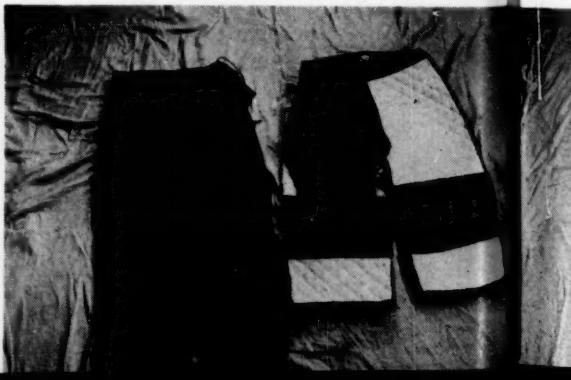


The key to keeping warm in cold climates is the word *c-o-l-d*. The four letters of this word relate directly to four basic rules for Marines who are engaged in fighting in areas where sub-zero temperatures are common. On these pages are pictures of arctic clothing which is now standard in the Marine Corps. These clothes were designed and tested to give the wearer maximum protection. But the best clothing is no good unless certain rules governing its use and care are memorized and observed. First, keep the clothes clean; second, avoid overheating; third, wear them *loose* in layers; and fourth, keep them *dry*.

Clothes must be kept clean because dirty, matted clothes simply will not provide as much insulating air space as clean clothes. Wear these clothes loose and in layers to get the maximum still air space, the best method to seal in your body heat. Avoid overheating, whenever possible, for perspiration destroys insulating air space. In addition, the accompanying evaporation tends to cool the body. Wet clothes are cold clothes, whether the wetness comes from perspiration inside or rain or snow outside. Remember—*C-O-L-D*. It is a good rule. And in arctic temperatures it is something as important to remember as your name and service number.



LEFT: Intermediate trousers with fiber glass liner. RIGHT: Outer trousers, similar liner.





ocks.
Intermediate jacket, cap (field OD), modified felt boots, with detachable hood.



Wearer has on a complete set of intermediate arctic clothing and holds his outer clothing.



Outer layer as worn: fur-trimmed hood, arctic mittens, mukluk boots, bottom of jacket tied.



Displayed above, left, is the intermediate jacket with detachable hood and fiber glass liner. Over this the wearer adds an outer jacket, right, with attached fur-trimmed hood and liner.



Arctic mitten shells with retaining neck strap, mitten inserts, and trigger finger mittens.

Arctic modified felt boots, cushion sole socks, two pairs ski socks, and two pairs of insoles.

Navy-type mukluk boots, cushion sole socks, two pairs ski socks, felt socks, insoles.



Signposts of the Future

By LtCol Keith B. McCutcheon

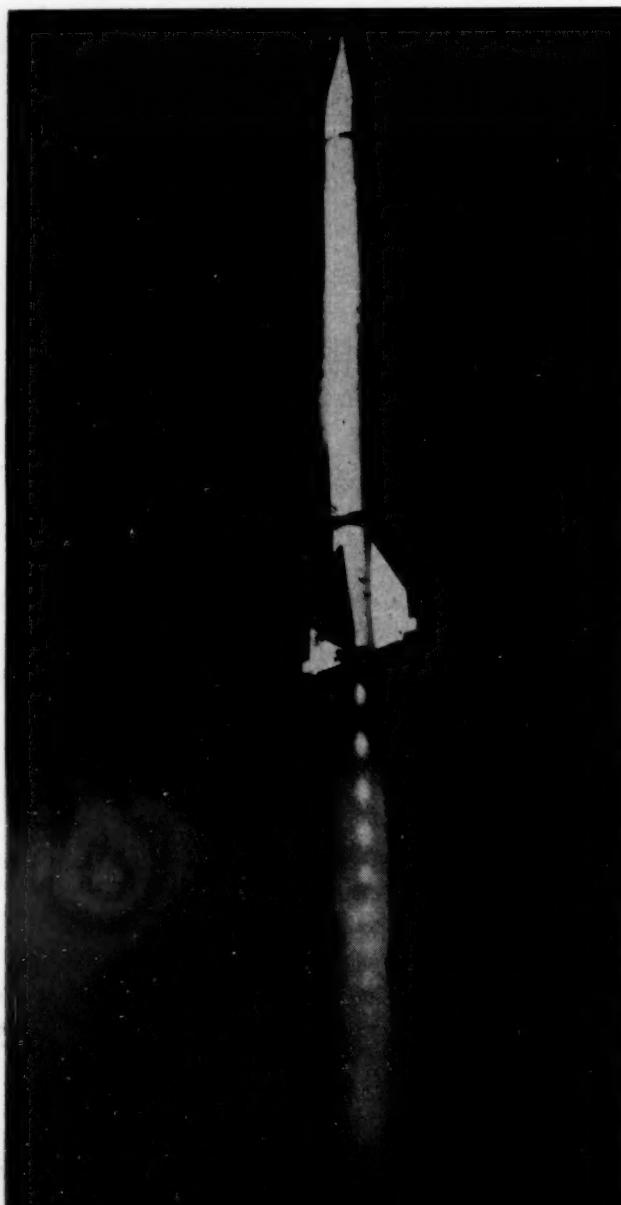
THE OVER-ALL REPORT OF THE UNITED STATES Strategic Bombing Survey on the European war states in its conclusion that the "speed, range, and striking power of the air weapons of the future, as indicated by the signposts of the war in Europe must—specifically—be reckoned with in any plans for increased security and strength. The combination of the atomic bomb with remote-control projectiles of ocean-spanning range stands as a possibility which is awesome and frightful to contemplate."¹

¹*Over-all Report (European War)*, U.S. Strategic Bombing Survey, p. 109, September 30, 1945.

This possibility of combining an atomic warhead with a long range surface-to-surface guided missile has provided an opportunity for many writers to fill the press during the last few years with thousands of words on future warfare and the "awesome and frightful" consequences deemed to be inherent in pushbutton war. Most of these articles have been based more on fancy than on fact.

This is not to say that such surface-to-surface missiles will not be used. It is to say that they will not be used in the great quantities and random hit or miss fashion that some people foresee.

Martin Viking rocket takes off from deck of NORTON SOUND to establish altitude record of 106.4 miles.



It is the purpose of this paper to consider this one type of missile, the long-range surface-to-surface, from the economic standpoint for the express purpose of pointing out that these weapons will not supplant existing ones but they will supplement them and they will be employed in a selective manner.

To get some idea of the awesome and frightful aspects of an atomic loaded missile we can turn back to the history of World War II for factual information on the destructive ability of missiles and atomic bombs separately and then imagine in our own minds the effect of compounding the two.

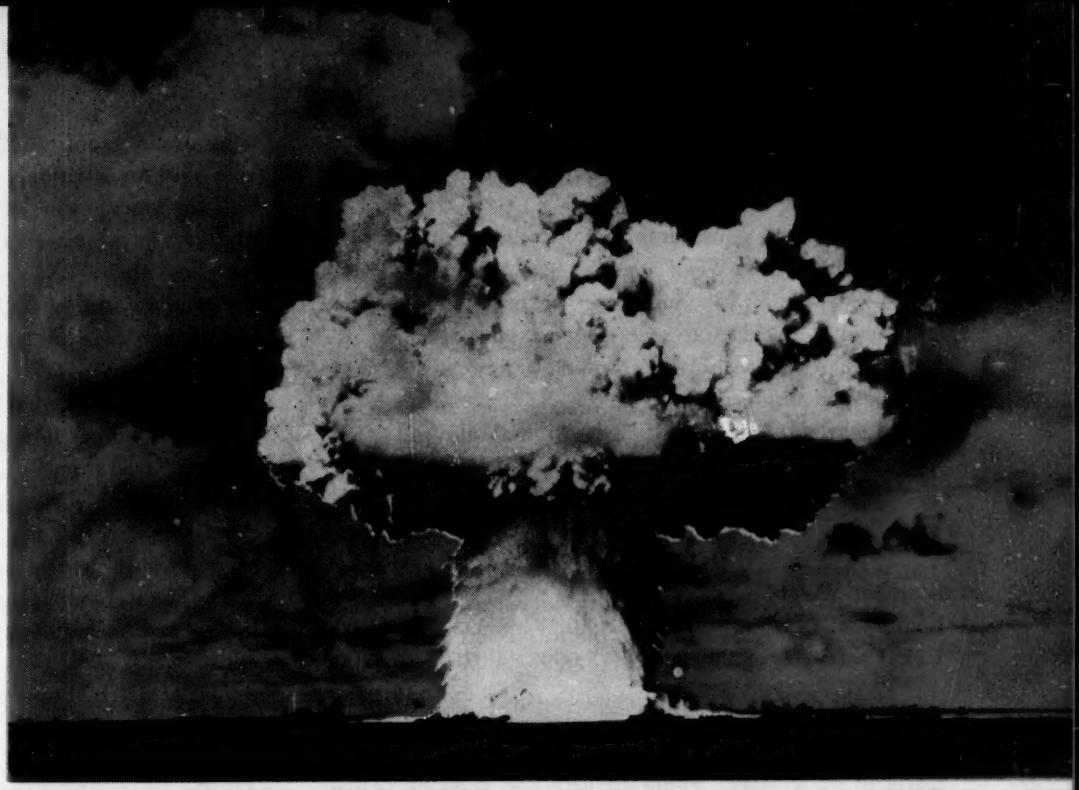
Among the European signposts were the German guided missile developments, particularly the "V" weapons. The world at large was first introduced to them in June 1944 for on June 13 the Germans launched an attack of V-1 buzz bombs that can be considered as the first bombardment by guided missiles in history. Between June 13 and September 3:

..... approximately 8205 missiles were launched against England. Of these, 2354 landed in the greater London area, killing 5476 persons, destroying 23,000 houses, and damaging over 1,000,000 more. In addition to that, 1482 Allied flyers were lost in bombarding the launching sites. The "buzzbombs," then, were responsible for a number of deaths equal to approximately one-tenth of the number of Britons who lost their lives by conventional aerial bombardment; and this in the short space of three months and at very little cost in lives to the Germans.²

²Colonel D. L. Putt, *German Developments in the Field of Guided Missiles*, p. 7, Headquarters Air Material Command, Wright Field, Dayton, Ohio, Release Date July 12, 1946.

The V-1 was only one of many developments. Their activity in this field may be likened to our atomic bomb project. They went all out to produce a series of secret weapons which they believed would be very formidable. They developed weapons in all categories: air-to-air, air-to-surface, surface-to-air and surface-to-surface.

The most highly publicized missile of the Germans was the V-2, or as the Germans themselves knew it, the A-4. There were 10 variations of this weapon. . . . One was a launching device intended to increase the already great range to 5000 km.



Pacific signpost of the future—the atomic bomb. Since the days of Hiroshima and Nagasaki speculation has centered on the hydrogen bomb and atomic missiles.

Interestingly enough, one of the improved models was to be equipped with wings, wheels, a pressurized cabin, and carry a pilot. Contrary to what may be popular opinion, the launching acceleration was well within the limit which a man can survive. . . . It is interesting to note that this missile was extremely expensive, each requiring 20,000 man-hours (for "0" series) for construction; however, since the Germans launched 3165 A-4's operationally, it is clearly indicated that the place of the large rocket weapon is firmly established in modern warfare. It has been pointed out that the small size of the warhead (1 T) would hardly seem to make the cost of the weapon worthwhile. In this connection it must be pointed out that it was probably the intention of the Germans that the weapon would eventually carry some sort of atomic device, in which case the warhead would have requisite specifications.³

The Pacific signposts were the atomic bombs. The U.S. Strategic Bombing Survey reported that casualties in Hiroshima were 60,000-70,000 killed and 50,000 injured while for Nagasaki they were 40,000 killed or missing and an equal number injured.⁴ For comparative purposes, Tokyo suffered 93,000 killed and 60,000 injured in the fire bomb raid of 380 B-29's on March 9, 1945.⁵

Substituting a missile for an aircraft as a carrier for an atomic bomb would have one great advantage. No personnel would be exposed to enemy action at close range. But before a substitution can be made, missiles

³Putt, Op. Cit., pp. 9-10.

⁴Summary Report (Pacific War), U.S. Strategic Bombing Survey, Washington, D. C., Chairman's Office, July 1, 1946, pp. 23-24.

⁵Stefan T. Possony, *Strategic Air Power*, p. 16, Washington, D. C., Infantry Journal Press, 1949.

must be proven 100% reliable. An erratic missile with an armed atomic warhead is frightful to contemplate.

In comparing missiles with aircraft as carriers for atomic bombs there are many approaches that may be employed. Because of lack of data certain assumptions must be made regardless of the approach taken.

One method is to compare the relative efforts. To do this it is necessary to have some idea of the relative costs of missiles and aircraft and some knowledge of the numbers of each required to accomplish certain missions.

John K. Northrop, President of Northrop Aircraft Inc., gave an estimate to the President's Air Policy Commission in the fall of 1947 of the costs of missiles.⁶

	Subsonic 600 mph Pilotless Aircraft	Supersonic 1400 mph Pilotless Aircraft	Supersonic 3500 mph Rocket
Production Quan- tity of 5000 Missiles	\$375,000,000	\$1,500,000,000	\$2,500,000,000 to \$3,500,000,000
Unit Cost	\$75,000	\$300,000	\$500,000 to \$700,000

No operational characteristics other than speed are given. If we assume that these missiles have a range comparable to the combat radius of the B-36 and that they could each carry a 5000-pound warhead of conventional high explosive as compared to the 10,000-pound

⁶Aircraft Industries Association, *Elements of American Air Power (Presentations of Aircraft Industry before the President's Air Policy Commission)*, p. 134, Washington, D. C., September and October 1947.

conventional bombload of the B-36 for the distance assumed we can make a rough comparison of the relative efforts required.

A B-36 costs considerably more than any of these missiles. Aviation Week stated that the unit costs of a B-36 was \$4,732,939 including government furnished equipment.⁷ Neglecting spare parts and allowing for lower unit costs with larger orders, a figure of \$3,000,000 may be assumed.

Summarizing our basic figures we have the following:

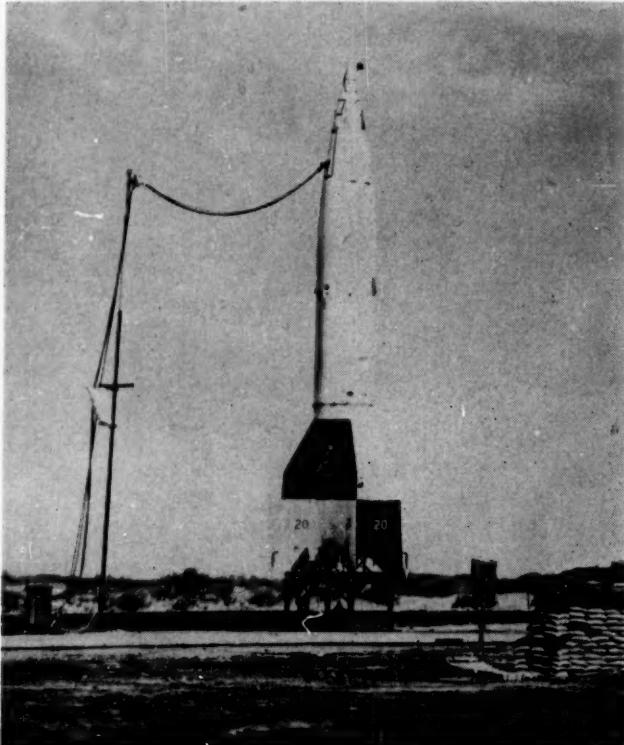
	B-36	Subsonic P/A	Super- sonic P/A	Super- sonic Rocket
Warhead Weight or Bombload in Lbs.	10,000	5,000	5,000	5,000
Unit Cost in \$	3,000,000	75,000	300,000	600,000 (average)

To place 10,000 pounds of conventional high explosive warhead on a target would require one B-36 or two of any type of missile. This is assuming perfect accuracy and no attrition.

To place any given tonnage on a target at one time would require "X" number of bombers where "X" is the desired tonnage divided by five, the load for a single B-36 on a single mission at the distance or radius under consideration. To do the same job with any of the mis-

⁷Aviation Week, Vol. LI, No. 11, September 12, 1946, p. 37.

Powerful German V-2 rocket is cleared for flight.



siles would require "2X" missiles. Again perfect accuracy and no attrition.

If the tonnage can be placed on the target over a period of time, days or weeks, the task could be accomplished with less than "2X" bombers but it would still require the employment of "2X" missiles. Aircraft can fly repeated sorties while missiles are one way, one trip vehicles.

Over the scope of the entire European War the U. S. Army Air Forces flew a total of 754,818 bomber sorties. They suffered a loss of 9,949 aircraft. This gives a ratio of 75 bombing sorties for each bomber lost. The Royal Air Force flew 687,462 sorties and lost 11,965 for a ratio of 57 over the entire period of their effort.⁸

The total bomb tonnage dropped by the Army Air Forces in Europe was 1,461,864 tons.⁹ The height of the effort occurred between June and November 1944 when a total of 570,000 tons was dropped or a monthly average of 95,000 tons.¹⁰

The average tonnage dropped per month by the Army Air Forces in the European Theater during fiscal years 1944 and 1945 was 65,000 tons.¹¹ To do this with the above missiles would require 26,000 launchings. 2,600 B-36's could perform the same mission by flying five sorties each per month. This is a ratio of 10 missiles to one aircraft.

At the flight speeds involved interception of the rocket and supersonic pilotless aircraft would be difficult. It would be easier to intercept the subsonic pilotless aircraft or the B-36. If fighter aircraft cannot, antiaircraft missiles probably would. So attrition on bombers may partially offset the disparity of numbers. On the other hand if the bombers flew more than five sorties per month the ratio would be even higher. At 10 sorties it would be 20-1.

From a purely numbers point of view it appears that missiles will not replace conventional bombers in their entirety. The basic characteristic of missiles is the one way attack. Such tactics will be costly in numbers and as will be seen later, costly in dollars.

Missiles will complement aircraft. For specially hazardous missions where bomber attrition is likely to be high, missiles could be employed very profitably even if their accuracy was such that many would have to be employed to ensure that sufficient numbers would hit the target.

26,000 missiles per month is a lot of missiles.

⁸Over-all Report, U.S. Strategic Bombing Survey, Op. Cit., p. x.

⁹Ibid, p. x.

¹⁰The War Reports of General George C. Marshall, General H. H. Arnold, Admiral E. J. King, p. 458, Philadelphia, Pa., and New York, N. Y., J. P. Lippincott Co., 1947.

¹¹Ibid, p. 458.

The Germans, in their original plans, called for production of 6,000-9,000 V-1's per month and 900 V-2's. The actual output was about 2,000-3,000 of the former during the period from early 1944 to March 1945, and between 50-300 V-2's per month from January 1944 to August 1944 and increased to about 700 per month from September 1944 to March 1945.¹² This probably represents the largest missile production to date by any country on record.

The production work to be performed per pound of missiles airframe will be closely equal to that per pound of airframe for an inhabited aircraft according to Harry Woodhead, President of Consolidated-Vultee, in presentations by members of the aircraft industry before the President's Air Policy Commission in the fall of 1947.¹³ On those missiles that utilize turbojet engines, the work per pound of power plant should be equivalent. And the work per pound of electronics equipment will probably be of about the same order of magnitude also. Generally then, the work per pound of empty missile will closely approximate that per pound of empty weight of aircraft.

William M. Allen, President of the Boeing Airplane Co., in the same presentations estimated that it requires 7,000,000 man-hours to produce 60 model B-50 bombers. This is 95,800 man-hours per unit.¹⁴ Production of larger quantities would reduce this unit effort somewhat but a point of diminishing returns is reached beyond which no reduction in man-hours is accomplished. The effect of quantity on B-50's is shown in the following table:

Quantity	Average Man-Hours/B-50
20	131,800
40	108,000
60	95,800
80	87,800
100	82,100

The B-50 weighs about 81,000 pounds empty. This is roughly one man-hour per pound of empty weight in large orders. It took the Germans 20,000 man-hours for a V-2 which has an empty weight of less than 4,000 pounds or approximately five man-hours per pound.¹⁵ Of course they were working under the constant threat of air attack, dispersed and on a highly experimental vehicle.

Assuming the optimistic figure of one man-hour per pound, to produce a missile with an 8,000-pound empty weight in the quantity cited above would require $8,000 \times 26,000$ or 208,000,000 per month. Working 24 hours a day, three 8-hour shifts a day, 30 days a month, this

¹²Over-all Report, U. S. Strategic Bombing Survey, Op. Cit., p. 88.

¹³AIA, Op. Cit., p. 138.

¹⁴Ibid, pp. 81-84.

¹⁵Supra, p. 2.

would call for 865,000 workers or 20-30 large aircraft companies. Industry just couldn't be assigned to undertake such a task to the detriment of other essential material.

If the missiles carried atomic warheads the quantity required of course would be considerably less. Following the concept that missiles would be used for selective missions to supplement and not to supplant bombers, it is reasonable to assume that industry could make the necessary numbers without too great a drain on other essentials. One or two factories could probably turn out the requirements.

It may be argued that there is no safety of human life involved in the flight of a missile and that tolerances and strength ratios may be reduced considerably. That may be true, but on the other hand, there is no acceptance flight test or check out either. The missiles must be manufactured, transported, assembled and checked and launched once. Any relaxation in standards of workmanship must be closely scrutinized to examine what possible effect they will have on the tactical mission of the weapon. If miss-fires or aborts run high, the number required will consequently be higher and the over-all logistic problem will be more complicated. And if atomic warheads are used the missiles must be 100 per cent reliable.

The one way flight characteristic of the missile brings up another very important consideration: the use of strategic or critical materials. Once launched they will not be recovered. Every effort must be made to design the missiles for use of substitute materials that can be procured in quantity.

Whether they are produced in large or small quantities missiles are going to be expensive.

There is a common notion that during war costs do not count. There is no greater fallacy. The error comes from the belief that civilian resources are unlimited. They are not. Costs are more important in war than at any other time, for the need for over-all effectiveness is then more imperative. . . . If we are going to fire a missile at the enemy, we should be very sure before we devote a large amount of manpower and materials to it that it is going to harm the enemy more than it harms us, that the damage it causes will interfere with his ability to continue the struggle more than it costs us from the same point of view.¹⁶

It was previously pointed out that the B-36 could place twice the tonnage on a target as any of the three types of missiles. Using the same unit costs the cost per warhead or bomblead ton on target is as follows:

B-36	\$600,000
Subsonic P/A	30,000
Supersonic P/A	120,000
Supersonic Rocket	240,000

If time is available to concentrate tonnage on a target the aircraft can be flown repeatedly whereas missiles can-

¹⁶Vannevar Bush, *Modern Arms and Free Men*, p. 79, New York, Simon and Schuster, 1949.

not. The following table indicates the decreasing cost per bombload dropped and cost per ton for the aircraft as the number of sorties increases. It is assumed that bombs are dropped on each sortie.

Sorties*	B-36		Subsonic	Supersonic	Supersonic
	P/A	P/A	P/A	Rocket	
	Cost/Drop	Cost/Ton	Cost/Ton	Cost/Ton	Cost/Ton
1	\$3,000,000	\$600,000			
2	1,500,000	300,000	\$30,000	\$120,000	\$240,000
3	1,000,000	200,000			
4	750,000	150,000			
5	600,000	120,000			
6	500,000	100,000			
7	430,000	86,000			
8	375,000	75,000			
9	330,000	66,000			
10	300,000	60,000			
15	200,000	40,000			
20	150,000	30,000			
30	100,000	20,000			
50	60,000	12,000			
75	40,000	8,000			

*5 tons bombs dropped.

If a B-36 can fly three sorties and drop 3 loads on the target the cost per ton is reduced to that for the supersonic rocket. If it can execute five missions its costs drop to that of the supersonic pilotless aircraft and if it flies 20 missions it is cheap as the subsonic missile. This illustrates one of the most important characteristics of aircraft, viz., the ability to fly repeated missions.

If the B-36 completes five combat sorties and is shot down on the sixth the attrition rate is about 16 per cent. At this rate the cost per ton compared to the supersonic pilotless aircraft is the same. Any attrition rate lower will be in favor of the aircraft.

If the airplane is lost on its 21st mission the attrition is close to 5 per cent and the costs are about the same as for the subsonic pilotless aircraft.

In both cases the attrition of missiles is not considered. Some of the subsonic missiles will be intercepted but it is doubtful if any of the supersonic ones would be for many years to come.

That subsonic missiles are vulnerable we need only glance back on the late war. History provides us with a splendid example. Of the V-1's launched against London many were shot down by antiaircraft artillery. The success of the antiaircraft was due to the appearance of the SCR 584 radar, the M-9 electrical predictor and the radio proximity fuze. "In our four closing weeks of the 80 days of V-1 attacks the shooting steadily improved. In the first week, 24 per cent of the targets engaged were destroyed, in the second 46 per cent, in the third 67 per cent, and in the fourth 79 per cent."¹⁷ These first missiles were not intelligent enough to take evasive action. Being relatively slow and flying a straight course they were

¹⁷James Phinney Baxter 3rd, *Scientists Against Time*, pp. 234-235, Boston, Mass., Little, Brown and Co., 1947.

good targets. Later missiles may be able to take deceptive measures; if not they will certainly have to resort to speed.

One element that can not be covered pointedly in any study is what is the value of human life? What attrition rate will bombers accept? Five per cent, 20 per cent, 100 per cent? Costs per ton mean little if 10 to 15 airmen are also lost. If the guidance and control and reliability of missiles can be made as good as that of bombers, the missiles, especially supersonic ones, will have a firm place in warfare. Even if accuracy is such that additional numbers must be launched to ensure hitting, the savings in human life should be well worth the added expense. If, however, atomic warheads are to be carried, and the stock of atomic material is limited, or if the value of each is so high that they cannot be entrusted to these uninhabited aircraft, it may be mandatory to use bombers.

The cost of production of 26,000 missiles per month would run to \$1,950,000,000 for the subsonic, \$7,800,000,000 for the supersonic pilotless aircraft and \$15,600,000,000 for the supersonic rocket. These costs per year would all be well in excess of the national defense budget for the current fiscal year. The same sums would buy 650, 2600 or 5200 B-36s at \$3,000,000 unit cost.

Similar comparisons could also be made of missiles versus the B-50 which costs less than the B-36. To get the same range, however, in-flight refueling would have to be resorted to in order to get the aircraft back so costs of tanker aircraft would have to be included.

If the missiles discussed herein cannot make the same range as the B-36 the costs of some that could would be higher. Or by the same token, the costs of lesser range aircraft such as the B-50 to match these missiles would be lower so in either case the aircraft would have to

"Aerobee", upper-atmosphere research rocket, soars from its launching tower.

Missiles are one-way weapons. They will complement such conventional aircraft as the intercontinental B-36.

fly fewer sorties to equalize the cost per ton of explosive on the target.

There is no absolute comparison that can be made. Each case must be evaluated on its own merits. For example, missile accuracy may vary. The supersonic pilotless aircraft costs four times as much as the subsonic, but if one out of three of the latter will hit the target, it would be cheaper to launch three of them instead of one supersonic missile even if the supersonic one were perfect in accuracy. If, on the other hand, only one out of four subsonic missiles would hit, it would be a toss-up.

Missiles will be used for selective bombing. They will be used to attack vital targets which will cost the enemy more than the effort cost us. As was learned in World War II ...

...The most serious attacks were those which destroyed the industry or service which most indispensably served other industries. The Germans found it clearly more important to devise measures for the protection of basic industries and services than for the protection of factories turning out finished products. The German experience showed that, whatever the target system, no indispensable industry was permanently put out of commission by a single attack. Persistent reattack was necessary.¹⁸

Posseny has listed certain characteristics of targets for strategic bombers which appear equally applicable to long range surface-to-surface missiles.¹⁹

1. Targets should be selected that are irreplaceable if destroyed. Their loss should be felt immediately or within a short period of time, and in many parts of the enemy's economy.
2. Of two targets of equal importance, that target should be given higher priority the repair of which will be more difficult and time consuming.

¹⁸Over-all Report, Strategic Bombing Survey, p. 108.

¹⁹Posseny, Op. Cit., pp. 70-72.

3. The class of targets selected for bombing should consist of not too large a number of elements.
4. The targets must be immovable and identifiable with available guidance and navigational aids.
5. Targets should be selected which the enemy cannot shelter below concrete or which show little structural resistance against attack.
6. Industries which supply the demands of both the home front and of the battlefield should be given preference.
7. Targets should be hit when the enemy needs them most urgently.
8. Attacks must be timed in such a manner that they have a wide repercussion over the enemy's entire industry.

As in any other military occupation air superiority will be necessary. As a minimum the launching area must be kept intact and this can only be done by gaining and maintaining air superiority locally and to some extent over the enemy's launching areas so his concentrations and counterattacks can be broken before they are initiated.

Defense against such missiles will be necessary regardless of the numbers employed or how much they cost. Just one atomic loaded missile could do a great deal of damage. A hundred could do much more. Without a raincoat you can get just as wet in a shower as in a thunderstorm. And even with a raincoat you can still get wet.

The surface-to-surface guided missiles, with or without atomic warheads, will not replace any conventional weapons as they are known now. They will be used as selective weapons. As with other new weapons, strategy will not change, but tactics and techniques will. Careful staff planning will be mandatory in choosing the weapon to be employed. Defense will be necessary.

The signposts are here but they need to be intelligently evaluated and interpreted.

US MC

In Brief

Rehabilitation training for Korean veterans under Public Law 16 has been announced by the Veterans Administration. The training, previously limited to World War II veterans, has been extended to cover men disabled on or after 27 June 1950, by Public Law 894, signed by President Truman late last year. The new law requires that the disability be such that the VA may pay compensation at full wartime rates. There will be a nine year period from the end of the current emergency for applying. Those veterans entitled to training as a result of their World War II service may be entitled to additional training if warranted.

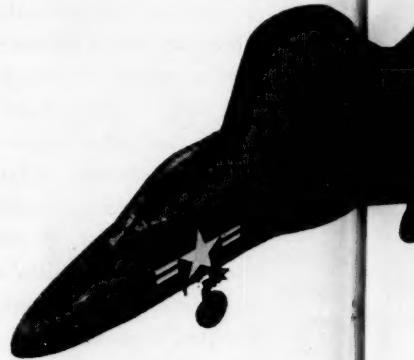
Marines desiring to enroll in certain off-duty courses in accredited civilian schools are offered this opportunity under Marine Corps General Order 81-50. Courses from the United States Armed Forces Institute are available to reservists with either 120 days on active duty or at least that long yet to serve. Initial registration fee of two dollars is required. Marines can enroll only for those courses not offered by the Marine Corps Institute. MC Bulletin 18-50 establishes the educational opportunities offered by these two correspondence institutions.

Reserves of the Marine Corps and Navy on active duty may now drop the "R" from their designations through authority from the Secretary of the Navy. This move, stated the Secretary, "makes suitable recognition" of the active duty status of personnel concerned. Exceptions include personnel on training duty. In matters such as personnel records, pay records, and clothing accounts, the designations will be retained to keep the legal status of Reserves clear.

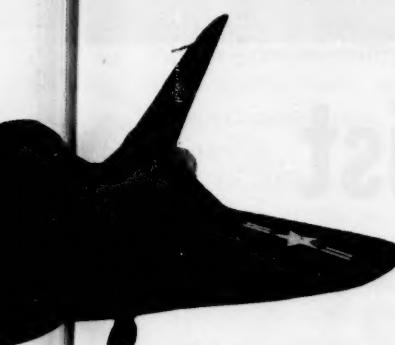
Athletic competition leading to All-Marine Corps championships has been announced by the Commandant. This program will replace the All-Navy events which have been held the last four years but have now been discontinued. As a beginner there will be competition in football, basketball, and baseball. First playoffs take place this year.

First Officer Candidate Course since World War II, through which college graduates with no previous military experience may become officers, has been announced by Headquarters, Marine Corps. Qualified graduates, or seniors who will receive their degrees this spring, other than in medicine, dentistry, or theology, and who will be less than 27 years of age on 1 July 1951, are eligible. Accepted candidates will be enlisted in the Marine Reserve and sent for 10 weeks training at Parris Island. From there they will be commissioned and sent to Quantico for a five months officer course. Further information may be obtained by writing to the Commandant of the Marine Corps.

Jet fighter, Douglas XF4D, latest in the Navy's high-altitude interceptors, has been flown for the first time. The Navy has announced that Edwards Air Force Base at Muroc, California, was the site of the maiden voyage. Pictured here is the first published view of the tailless speedster. Unique in design, the plane is actually a triangular planform wing with a slim nose extending forward to provide a cockpit for the pilot. It is designed for catapult take-off from carriers and rapid climbing.



A new boot for protection against extreme cold has recently been developed. Result of two years research by the Naval Clothing Depot in Brooklyn, the boot reduces perspiration and is insulated similarly to a thermos bottle. The standard "shoepac," now in use, depends upon the condition of the wearer's socks for insulation if success is to be insured. The new boot is rubber inside and out, with wool sandwiched and sealed in as an interlining in the sole, around the foot and ankles and in the expanding-gusset type tongue. It is worn with only one pair of medium weight wool-cotton socks.



"GI-X," millionth serviceman to die in U. S. military history, will be killed in Korean action if the present battle casualties continue. A report by the Association of Casualty and Surety Companies stated that military deaths were at the 994,000 mark near the end of January 1951. First of these took place 19 April 1775 at Lexington. All U. S. wars had cost 986,000 lives prior to the outbreak of the Korean conflict. Coincidentally this figure is nearly the same as that for traffic deaths since 1900. "Victim-X" is expected to be killed sometime next fall. It was pointed out that 284,000 of the military deaths were caused by disease during the Civil War among Union and Confederate troops.

New two and one half ton Ordnance truck, the "Eager Beaver," was recently driven in water at depths down to 11 feet. Special extensions for the air intake and exhaust were all that remained above the water's surface during the tests. The driver was equipped with a portable breathing apparatus. The six by six truck remained below surface in continuous operation for periods ranging up to two hours. The "Eager Beaver" can ford streams or be driven off a landing barge into surf.

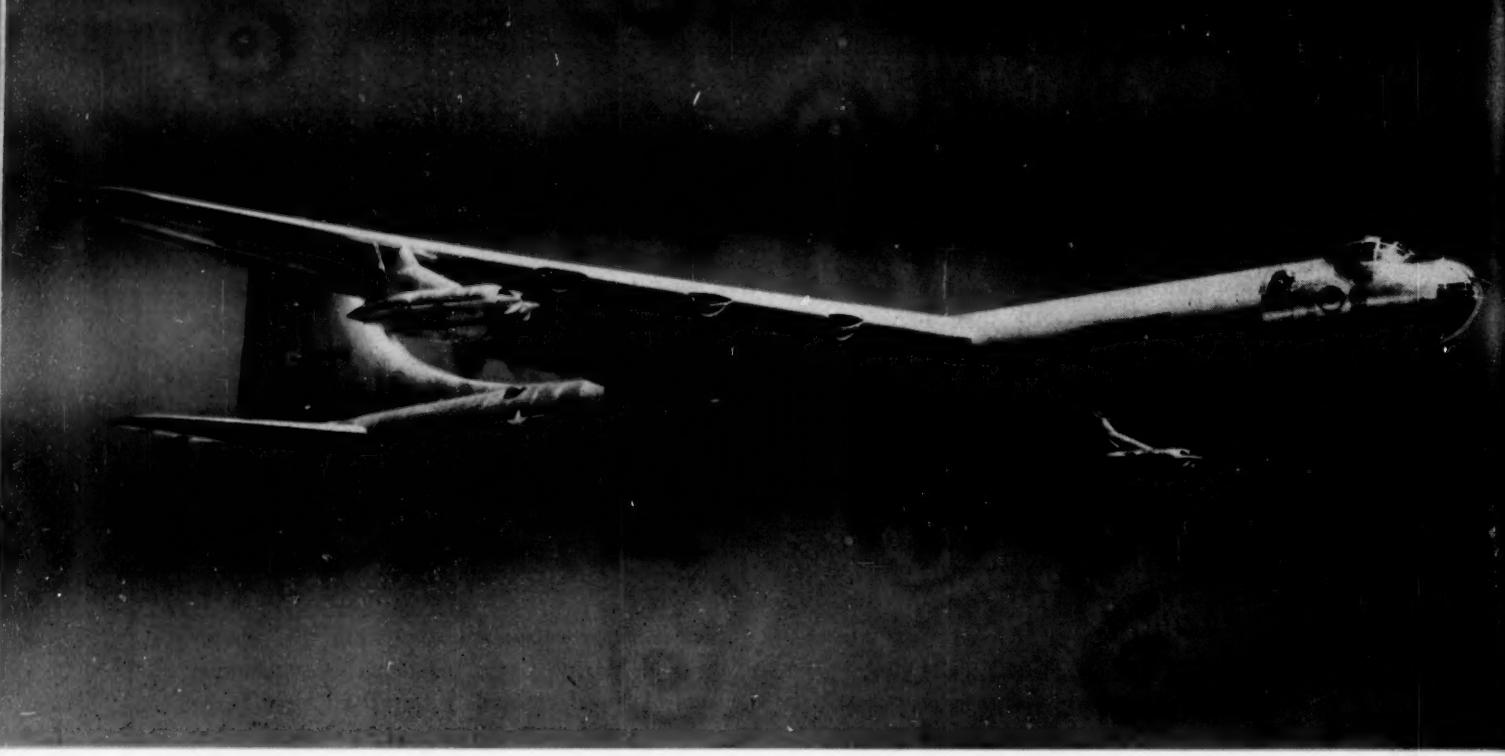
British troops now number approximately 846,000 according to the British Information Services. Conscription of men between 18-26 and an increased volunteer program are expected to raise this near the million mark before the end of the current year. Nearly half of this force is serving overseas. There are 22,000 in Korea (including Naval personnel), 17,000 in Malaya, 11,500 at Hong Kong, two and one half divisions in Germany, with the remainder spread throughout the world. The majority of these out-of-the-country forces are somewhere in Europe. Figures on the size of the force now stationed in the Middle East were withheld for security purposes.

An electrically-operated stretcher will greatly facilitate loading and unloading of patients in Douglas C-54 transports. Weighing less than 140 pounds, the lift is stowed within the plane and can be placed into operation within one minute. It has a capacity of two patients or 500 pounds when used to handle general cargo. Patients remain in a level, prone position while the single arm of the lift swings through an arc which ends 30 inches from the ground and 30 inches from the cabin floor. The arc is completed in 15 seconds. The lift may be operated either from the ground or within the cabin, using electricity from the airplane system.

Sick leave processes are now being sped up for Navy and Marine Corps personnel. Commanding officers of Naval hospitals within the United States may now grant up to 30 days leave without reference to medical surveys, clinical boards, or higher authority. Heretofore, final authority for sick leave had to come from the Chief of Naval Personnel or the Commandant of the Marine Corps. Sick leave is leave granted to officer and enlisted personnel who do not require constant treatment but who are not yet recovered completely enough to return to duty.

Navy helicopter, HUP-1, features the latest in rescue equipment. A big internal hatch, adjacent to the pilot's seat, permits passage of a laden litter. A hydraulically operated hoist is mounted above the hatch so that rescued personnel can be brought directly into the cabin. Regardless of weather conditions, the pilot can control the rescue while flying the helicopter. If a rescue sling or harness is used, the pilot can conduct the entire operation without assistance. The HUP-1 normally carries a crew of two plus five passengers. It has reached a speed of 131 miles per hour.

Fire loss for Naval shore establishments dropped to a 10-year low during fiscal year 1950 according to an announcement by Navy Bureau of Yards and Docks. Losses were approximately 1-100th of one per cent on property valued at close to 15 billion dollars. One death and 67 injuries resulted from 938 fires which occurred. Top cause of fire for the year was blamed on the "careless smoker."



Airpower Goes Isolationist

By Col G. C. Reinhardt, USA

IN THE GRACIOUS DAYS OF THE DUELLO AN UNimpressed Yank accepted his challenge by calling for shotguns at six feet. That evaporated all enthusiasm for fields of honor. While Maj Seversky aligns himself, verbally, with the formal, courteous type of warfare wherein no combatant stains his trousers in a foxhole or uses four letter words, he is actually demanding automatic shot-guns at four feet . . . in his insistence upon mutual annihilation.¹

Of course neither the major nor his aerial coterie see matters so brutally, despite page after page reiteration of the impossibility of defense against the super air armada they advocate. Taken literally their program would have the American air force wipe out Russian industry and cities in a single radioactive night, the same one during which our own metropolitan areas are swathed in flames . . . and gamma rays. Thus all flyboys return to a dead land, whether they fly east or west. Obviously there can be no second expedition in either direction. All air bases, as well as all industry supporting those bases, will have disappeared in a splatter of neutrons.

¹ED: The author refers here to Maj Alexander P. de Seversky, well-known air power advocate.

Naturally the soft spoken major has not portrayed his case in such phrases. He implies that the U.S.A. armada only is invincible. We will destroy that of our foes on the ground, smashing their bases before they can launch their destructive brood.

Right there the pin prick of reality penetrates Maj Seversky's rosy-hued bubble. *Our* air bases are known throughout the world from newspaper stories, photos in magazines. We have no bases underground to shelter giant bombers, their equipment and supplies during an attack, atomic or otherwise. We depend upon "concealment and dispersion," then inform the press where we "conceal" our aerial might.

How well informed are the Pentagonian strategic target selectors for directing our bombers against Communist bases; how accurately can they brief bombardiers, whether human or the electronic robots Seversky advocates? Even if all this could be answered reassuringly, and security restrictions permitted, what remote reason leads Seversky to expect the enemy will foolishly await our attack after first giving us justification to strike? That has never been the pattern of aggression to date. Or have we, in his argument, merely another advocate of that impossible "preventive war" an American democracy

By all means, let us strengthen our air power as we simultaneously rebuild other essential elements of our balanced forces, argues the author. But let us leave all the Buck Rogers concepts to our scientists, led by men like Vannevar Bush, Compton, and Oppenheimer

will never seriously consider, much less launch?

It is time that the United States public be treated as adults, not fairy tale absorbing children. We were long nourished, and calmed, by assertions of our atomic monopoly. When the Russians undeniably achieved the bomb our reliance was switched to American superiority (no longer monopoly) in atomic warfare and the means to deliver it. (Only the U.S.A.F.'s B-36, never carrier-borne aviation, submarines, nor guided missiles could do the job, either for us or for the enemy.)

When at length serious doubts were cast concerning the one weapon invincibility of the B-36, valuable though it may be in the family of armament, Maj Seversky announces a super-super-aircraft. The "oldest inhabitant" smiles reminiscently, thinking of early 20th century naval armament races with their battleships, dreadnaughts, super dreadnaughts. What has become of those appellations?

The enthusiastic major apologizes for the vagueness of his descriptions on grounds of security. That is indeed praise-worthy today. Moreover it is not essential that we understand the technological complexities of his armada, merely its implications. These new "flying fortresses," or aerial battleships, that need no fighter protection because crews retire into bullet proof interior cabins within self sealing hulls, what are they but grandiose guided missiles?

Maj Seversky explains that "electronic devices" (details security deleted) inform the hermetically sealed crew what happens outside. The crew then operates their space ship (we might as well accept Buck Rogers' terms along with ideas) by other delicate electronic controls (also security deleted), to guide their battleships of the air, annihilate opposing fighter planes, and blast into oblivion any manner of ground installations.

If the scientists working behind our security curtain have, or can, solve all these requirements why must the

crew sit sealed up in the aircraft? Why the expensive, wasteful addition of living quarters to a veritable guided missile? The crew could certainly operate the electronic devices at Mitchell Field, the major's frequent reference point, landing the robot ship by the same means after its flight.

This rude suggestion brings us back to the guided missile scale of 1946—and push button warfare. Vannevar Bush spills cold water all over such ideas for our lifetime . . . or our children's. Is he, too, outside the security curtain pierced only by enthusiasts of air armadas?

Prophets of doom are a peculiarly recurrent phenomena in this country. Before WW II we lost much sleep over Gen Billy Mitchell. We honored Duohet far more than did his native Italy. The *Literary Digest* in the early Twenties, forecast air and gas warfare horrors even more inaccurately than their famed boner over presidential elections. Yet bombs and bombers failed to defeat Germany or Japan however much a superb balanced air force, defensive fighters, tactical support, medium and heavy bombers, contributed to the balanced Army-Navy-Air Force Team victory. Gas warfare was adjudged unremunerative except against primitive nations.

The strategic bombing fixation in Britain very nearly brought defeat to that empire. Only the devoted, famous

What size tank-infantry force could be bought for the price of an air strike?



"few" of the fighter defense command and Churchillian resolution saved the day while British bombers futilely attacked Germany by night with insignificant effect. Even the unparalleled might of American bombing effort added to that of the British could not prevent German industry from expanding to a wartime peak in June 1944, after four years of continuous Allied bombing! Germany's rapid decline, industrially as well as militarily, thereafter paced the march of Allied armies into the European continent and the German homeland.

Non-plussed the rebuffed air radicals seized upon the atomic bomb as their new beacon, ignoring the truth of the Japanese knockout. Naval action and ground victories had the Nips hanging groggily to the ropes before the explosion at Hiroshima. For four years the A-bomb was the only God and the B-36 his prophet.

Essentially, Maj Seversky states that push button air warfare reduces armies and navies to minor roles. No argument. But that same warfare eliminates living crews for aircraft, finally returning combat aviation to its fundamental role of very long range artillery, now termed guided missiles. Nor does the Severskian party line include any schedule of operational dates for his miracles.

No sane American denies the vital importance of research and development to maintain our technological headstart. Nor would he disparage the value of air superiority in modern war. Of all Americans, the Seversky pilloried admirals and generals most desire decisive air supremacy to ease their own tasks. Air supremacy, absolute and almost undisputed is ours today over Korea. Look at the current photographs. "U. S. Troops debark at Korean port." The pier and shore are black with crowded soldiers, transports are calmly docked side by



Decisive air supremacy eases the tasks of all commanders. Shown are U. S. Air Force B-29s dropping 500-lb bombs on targets in North Korea. Marshalling yard and repair area at Songjin (right) shows effect of B-29 bombing on critical area.

side. Or, "Marines bathe in river." The shallow water and banks resemble Coney Island on July Fourth. No stronger commentary on the absence of enemy air action is necessary. We have not only superiority but supremacy in the air over Korea but our land forces once were beaten back to the desperate defense of a small beachhead.² We had naval preponderance equivalent to our air power. What we lacked was the army strength to provide a balanced force of all services. Lacking that balanced power a tenth rate nation had taken the offen-

²Ed: And almost were again after this article was written.

sive and challenged the might of the United States of America.

The combat Air Force itself admits that all its courage and daring cannot win wars or even battles single-handed. MajGen "Rosie" O'Donnell, returning from leading the 950-ton B-29 strike against the critical enemy bridgehead over the Naktong, bluntly told the press: "I hope it helped but I doubt it." A terrific enemy assault the next morning established the general's accuracy as an analyst.

Has any U. S. agency estimated the cost, in resources and dollars, that made that strike possible, then determined the force of tanks and infantry the same resources would have provided? The results would be interesting to know, along with a professional estimate of how much damage such an infantry-tank force could have dealt the same Naktong bridgehead that jauntily resumed its offensive after the rain of bombs.

Maj Seversky calls the "Korean incident" a "localized surface contest wholly irrelevant to a war between great powers on different continents." In World War II we fought great powers on several continents. One similarity holds if there be World War III. Either our Armed

Forces will take the war to the enemy's continent or he will bring it to us.

The air will probably be the medium that decides which shores will embrace the struggle. We must make absolutely certain that our Air Force can defend the air above our land, and is able to penetrate the defenses of the enemy. Thus the Air Force has assumed, for the continental U.S.A., the old Navy title of "first line of defense." In its shelter we may build our power to invade and conquer.

But what of our Allies overseas? What of the countries we now occupy, disarmed by our order, their protection our unavoidable responsibility? What price American troops now overseas? Maj Seversky must be confused in the scriptures: "He who would win the world must first lose it."

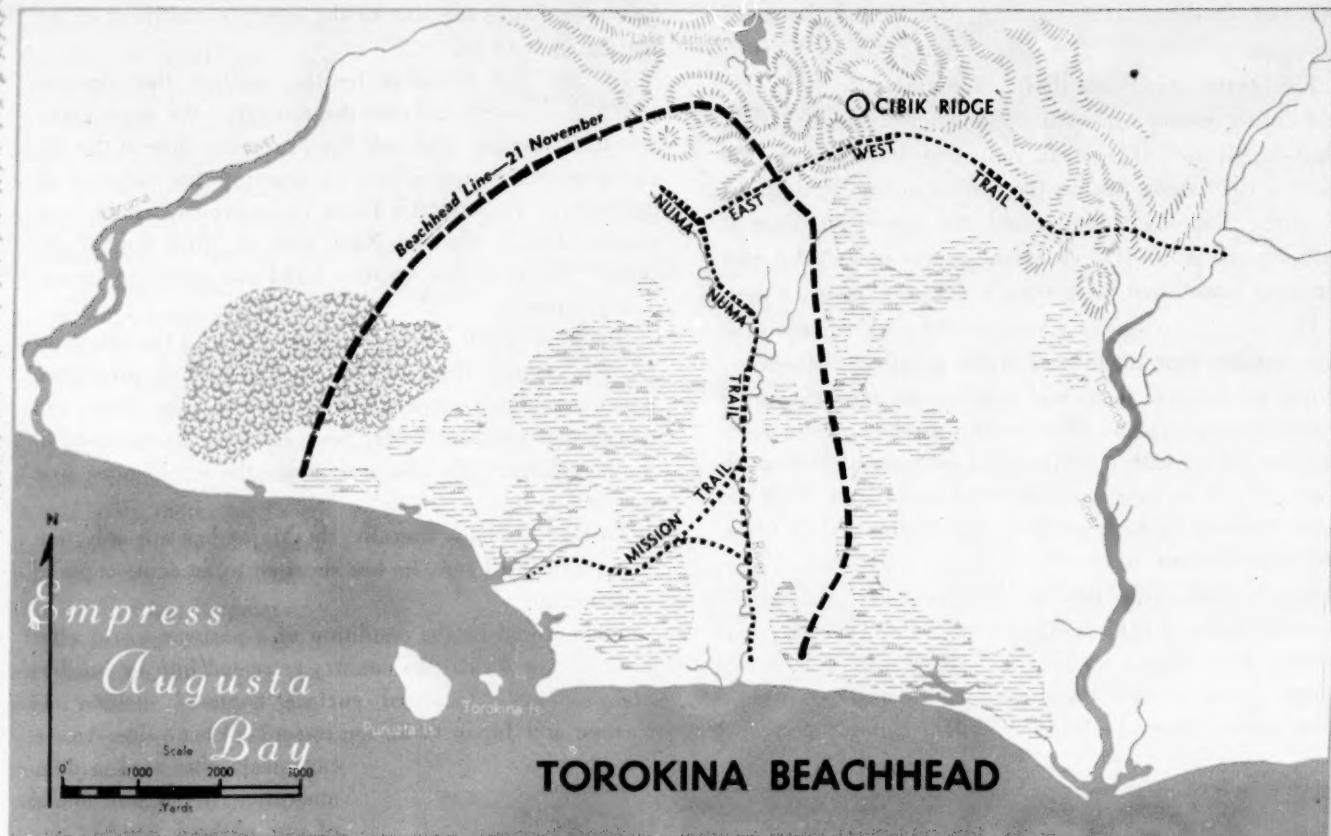
To take his book literally, the Major has not only out-bucked Buck Rogers, he has reverted to an acute stage of isolationism.

What would be the condition of a postwar world after a conflict in which this country retreated into its borders and watched "localized surface contests" deliver all Europe and Japan to an aggressor? What value American ideals after such a demonstration of callous denial of our pledged word?

Even the practical air power aspect is ignored. An air armada that bombs enemy vitals as effectively from Mitchell (or March) Field as from Great Britain (or Okinawa) has not yet been sketched by an artist, much less reached the drafting room.

By all means let us strengthen our air power as we simultaneously rebuild the other essential elements of our balanced force. That, sadly enough, is a terrific assignment for all Americans to give their united efforts to today. Let us leave Buck Rogers concepts to our scientists, led by such men as Vannevar Bush, Compton, and Oppenheimer. Let us likewise not confuse international policy, already complicated enough, with the overly enthusiastic advertising of a single industry. USMC





Cibik Ridge—Prelude To Victory

By Maj Harry W. Edwards

“SEIZE THE HIGH GROUND AND HOLD IT” IS A TACTICAL AXIOM probably as old as warfare itself. On the murky morning of November 1, 1943, that axiom appeared to have little significance to members of the 3rd Marine Division who stormed ashore in Empress Augusta Bay, Bougainville, B.S.I. No significance, that is, unless they entertained visions of seizing Mt Bagana, or others of the volcanic fraternity, that belched forth their awesome greeting from the ridge line about 10 miles inland. Otherwise a vast, impenetrable jungle concealing a mangrove swamp, that stretched six miles wide and three miles inland, seemed to offer little prospects for high ground.

Men of the 3rd Regiment, who are the chief actors in this narrative, were not strangers to mud; they had lived with it in Samoa, Papatoetoe, and Tetere before plunging into the dense swamp-jungle that was Bougainville. However bad the terrain, it seemed a wise choice to land the division as far as possible away from the two big bases on either end of the island at Buka and Kahili. Calculations had been made as to the time factor before reinforcements could be put into the Empress Augusta area

from those two Nip strongholds. As time factors often do, this one went awry because of failure to consider the immensity of the swamp area, and the Japs did achieve considerable reinforcements before a beachhead was secured that was large enough to contain a bomber base constructed on solid ground.

In 19 days of pushing, the beachhead revealed a perimeter that was only four miles deep at its apex with two Marine Regiments—the 9th and 3rd—joining flanks, and reinforced by the 148th RCT of the Army's 37th Division and the 21st Marines. All supplies to forward areas were brought in by alligators since no other type vehicle could negotiate the combination of mangrove roots, mud and water. Artillery ammunition was stored on rafts and fox holes were veritable bath tubs. Still no high ground.

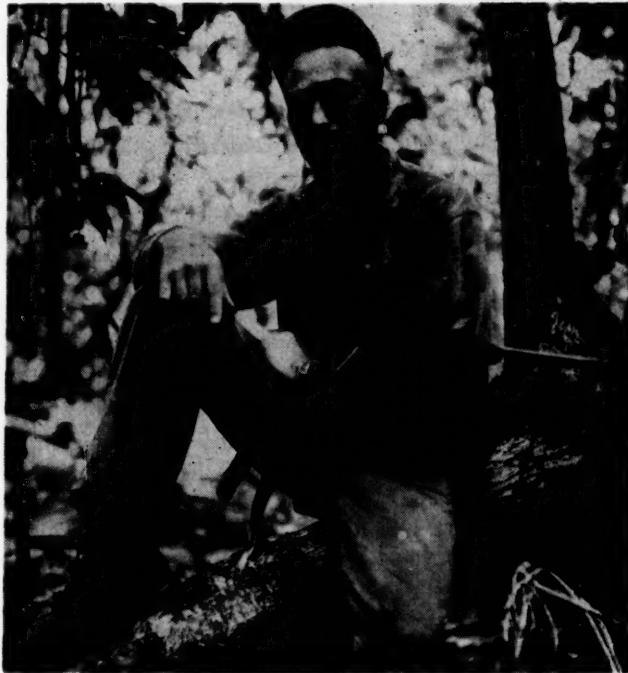
Such then was the situation in late afternoon of 20 November that confronted 1st Lt Steve Cibik commanding the 1st Platoon of “F” Company, 2nd Battalion, 3rd Marines in combat patrol. Lt Cibik's patrol found it slow going in their effort to reconnoiter through the morass in front of their 2nd Battalion position until they broke out onto the native East-West trail. This area had been

reported on before by elements of the 21st Marines but they reported no high ground. However, Lt Cibik had been schooled in jungle operations by the old master, Gen "Speed" Cauldwell, in eight months of Samoan training. His patrol found themselves looking at a solid wall of trees just off the East-West trail and as they tried to go through that jungle wall they found themselves climbing in the process, until eventually they had reached an altitude of almost 400 feet where they broke into the clear for the first elevated view of the terrain in 20 days of bush fighting.

It didn't take an experienced infantryman to appreciate such a discovery. And it didn't take Lt Cibik long to capitalize on his position. There were evidences of recent Japanese occupation, complete with the smell, on all sides, but no Japs. Time did not permit a full reconnaissance since daylight hours were waning and the Marines' SOP didn't call for much movement after dark. Lt Cibik quickly sited in all his automatic weapons, particularly covering the trail approach leading down the other side of the ridge. He dispatched a message by runner to Battalion Commander, LtCol Hector De Zayas, telling him of his great find and the fact that his patrol would stay in position overnight to await reinforcements in the morning.

The ridge dominated a reverse slope and it was a surprised bunch of Japs that attempted to come back up the next morning. Cibik's Brownings punctuated a noisy greeting and took a heavy toll. It was obvious the Nips had been making a practice of occupying the position by day and going to the reverse slope by night.

1stLt Steve Cibik moved in while the Japs were out.



IN THE NEXT THREE DAYS the Japs made countless attempts to regain the ridge line and were always bloodily repulsed. However, they did succeed temporarily in surrounding the position to cut off the reinforcements that Cibik had counted on for his defense. The grim stand that the patrol made in holding onto this position marked a turning point for the entire beachhead operation. It was to insure the victory of Piva Forks that was to follow and it was to give posterity another name to conjure with on the battle maps of Bougainville—Cibik Ridge.

By 23 November the regimental weapons company of the 3rd Marines had reinforced the ridge position and the artillery FO, Capt Tom Jolley, from the 12th Marines, was busy adjusting fires in preparation of the attack set for Thanksgiving Day. Colored smoke was used to mark the regimental front lines but as sighting rounds were called for, there would invariably be more delivered than Capt Jolley called down, and invariably also, they fell within our own lines. It was a difficult job convincing our infantrymen that it was not their own artillery firing shorts, but actually was Jap artillery playing tricks. This proved to have a bad effect on morale, as the Japs no doubt anticipated.

Capt Jolley pointed out to observers who were with him a small cocoanut grove on a ridge about 1,200 yards away as the crow flies, and facing our position. He noted that it would make an excellent spot for Jap artillery and he took steps to plot it for a concentration. The morning of the attack—24 November—proved his estimate of the situation. As our artillery preparation began on H minus 15, Jap pieces began flashing from the cocoanut grove. Then, as luck would have it, the first Jap round knocked out all of Capt Jolley's communications lines to the FDC. He lost much precious time getting communications re-established before calling for the concentrations on the cocoanut grove. This time-lag almost proved fatal as events proved. When the 9th Marines eventually overran the Jap artillery position about a week later they discovered the Japs had limbered their mountain guns, packed them on their backs and started back over the ridge line only to be caught by the Marine artillery concentrations just in time.

Altogether some 3,600 rounds of artillery ammunition were fired from 75 mm, 105 mm and 155 mm pieces in preparation for the Thanksgiving Day attack—a new record in artillery preparation for a jungle attack at that time. Cibik Ridge had provided the only ground OP available for the registration of this preparation. The success of that attack broke the back of enemy organized resistance in the beachhead area. It gave us a perimeter extending 10,000 yards inland and enclosed the necessary high ground used for the construction of bomber strips that brought us air superiority in the northern Solomons. A valuable lesson in terrain appreciation that proved a prelude to victory.

USMC

On Cultivating Kernels and Colonels



By 1st Lt Charles W. Blyth

Professional examinations should do more than dispose of the chaff alone; the best kernels must be carefully nurtured to insure future crops

IF YOU WERE GIVEN AN ARBITRARY GRAIN CROP AND were directed to improve upon it, the steps you would take, more than likely, would follow this pattern. First, you would cultivate it by the latest scientific methods; then at harvest time you would separate the grain from the chaff, disposing of the latter. From this grain you would select the best individual kernels to be further processed for the purpose of seeding your future crops. The remainder of the grain provides the bulk of the crop that is placed on the market for sale; however, by the processing of the best kernels, future crops will present a better yield, and the farmer will enjoy greater profits.

Now let us substitute the crop of officers within the Marine Corps for the grain crop. If you were directed to improve upon it, the steps that you would follow would be similar to the steps required to improve a grain crop. Each rank may be considered a separate crop, and promotion may be considered the harvest. Certain elements who fail to qualify for promotion may be considered the chaff; Headquarters Marine Corps, the farmer, using selection boards and promotion examinations as a threshing machine, separates the grain from the chaff and disposes of the latter. The bulk of the grain is placed on the market for promotion, but if we are to seed future crops of junior officers with added integrity, loyalty, and efficiency, it is necessary that we select the best individual kernels for further processing.

Let us consider the three portions of the harvest. Within any arbitrary body of individuals, be it composed solely of college graduates or plain uneducated savages, the body can be divided into three separate groups. There are: (1) those who possess certain innate and *superior* characteristics of leadership, initiative, and ambition; qualities that make them stand out among their given group; (2) those who comprise the bulk of such a body, possessing merely *average* qualities or characteristics; and (3) those who possess *inferior* characteristics in relation to the bulk of the body, those who maintain the minimum requirements to qualify for a certain intelligence level or social strata. The first and last groups are

generally minorities, the first being the smaller of the two. The second group, comprising the majority, advances or retreats in relation to fixed arbitrary social or intelligence levels, depending upon the elements of environment and standards of living of the locale or period. The superior groups attempt to advance regardless of environment or other influencing elements; the inferior group is prone to use environment or something else as an excuse for complete ineffectiveness.

The officers of the Marine Corps as a body are no exception to the rule. Fortunately, the latter group is but a small minority, and adequate steps have been taken to dispose of it, either by producing an incentive to improve or by releasing them from service. One step was, of course, the re-establishment of the professional examination necessary for promotion. Now steps must be taken to provide for those officers who comprise the first mentioned group. *To dispose of the chaff alone is but a negative accomplishment*; the healthiest kernels must be selected and processed in order to cultivate a future healthier crop.

How is it proposed that selection of the outstanding officers be made, and what is considered as the required processing for those selected?

The following is not necessarily the school solution, but it is food for thought in improving the present system of promotion. The foundation was laid in the form of Letter of Instruction Number 1605; upon this foundation let us construct an edifice of efficient promotion policies. Policies then in effect stated the desire that a spirit of natural competition be engendered among contemporary officers, but how could the spirit of competition prevail under the contradiction that relative standings of the professional examinations would not be published? In order to stimulate a spirit of competition, the competitor must know how he compares with others. Competition would not only be stimulated by the publication of the relative standings, but it would inform the borderline officers that increased efforts in work and study

are required. On the other hand, it would provide those in the higher brackets a certain amount of pride and self satisfaction, which through further study, they would strive to maintain. Critics will contend that it will also induce a few to stand on their laurels and make no further efforts to improve. When such is the case, it would normally be detected during the next period of selection for promotion and they would be weeded out. The individuals with which we become primarily concerned are those who consistently fall into the upper brackets.

FOR THIS GROUP, who maintain the superior characteristics, there must be some form of award beyond mere personal satisfaction, especially if we desire to improve our future Corps. For every action there is required an equal and opposite reaction. If those who are deficient in the qualifications are to be retarded in advancement or removed from service, then it is equally essential that individuals who possess superior qualifications ought to be advanced with increased rapidity. This, of course, raises the cry—what about seniority? The Marine Corps has functioned efficiently for 175 years using seniority as a basis for promotion; however, this does not preclude that it will not function more efficiently were a policy to be established whereby a happy medium between seniority and ability be the basis for promotion.

A board was established to study and decide upon cases which were deficient in qualifications as revealed by the professional examinations. Why not establish a similar board or increase the scope of an existing board to consider the cases of officers whose examination scores are exceptional in relation to the remainder of their rank? It is fully realized that the result of the professional examination alone does not indicate a military genius, but it can be used as a basis for consideration, as it is one of the essential requisites to be considered. The numerous assets and deficiencies of the individual would have to be carefully weighed before any action is taken to actually advance one officer ahead of another, in the same serious manner that it is incumbent to study numerous other elements before action is initiated to dismiss an officer for failure to pass a series of professional examinations.

Perhaps it should be elaborated upon as to why a change in the present promotion system is necessary. As a group of officers-to-be progress through Basic School they are given a relative rating according to their scholastic standing and aptitude. Upon this rating is based their lineal standing for years to come. While this is adequate at the beginning of an officer's career, it does not deal fairly with an officer who progresses beyond his contemporary officers in practical experience. Take for example two majors with equal service. One may have had a superior background for Basic School training, and by virtue of it, he may stand number one in his class. Let us say, arbitrarily, the other had to struggle to grasp the

anchor spot. What if the major who held the anchor spot at the time of commission had advanced far beyond the other in a period of a dozen years, does the original ranking still bear fruit? While some individuals will stand out in training, others will advance beyond them during a period of practical experience. For this reason, there must be a certain amount of flexibility in the present system of lineal ratings, if we are to take advantage of those officers who possess superior qualifications.

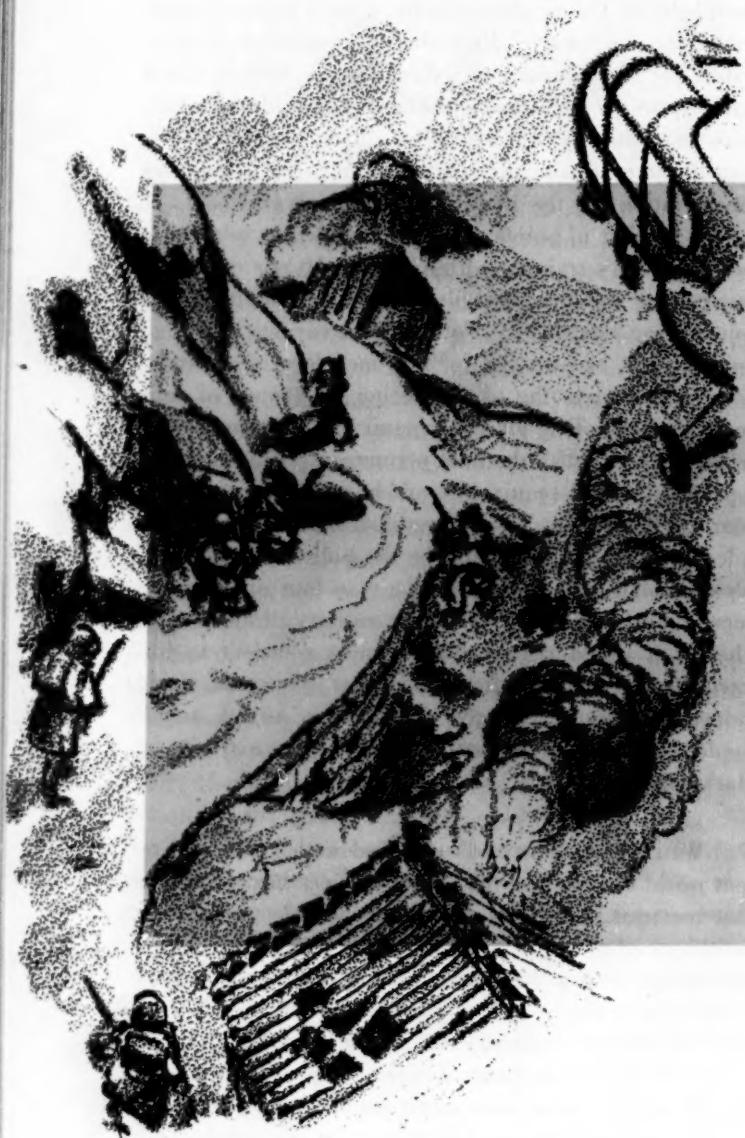
While there may be many solutions for the happy medium between ability and seniority, a point system is mentioned for the sake of discussion. To establish a point system for each individual officer in the Marine Corps would certainly be tedious; therefore, it would be a primary requisite that the officer be among the top 10 per cent on the professional examination in order to be given consideration by the board for rapid advancement. A certain number of points would be awarded in relation to the individual's training within the top 10 per cent. Fitness reports would necessarily require consideration with points being awarded in relation to the various markings. Points might be awarded for any medals or commendations presented to the officer during his tenure of rank presently held. This gives a general idea of a method to be used; to establish the final permanent policies on such a proposal would require the minds and experience of a board of Marine leaders in Headquarters. Also to be decided by such a body would be the policies limiting the advancements, whether jumping a man four or five numbers would be adequate award for military proficiency or whether it would require advancement sufficient to forward the date of promotion. The latter, of course, would induce many more to strive for such an award, and it would ultimately bring out the best in the majority of Marine officers.

WHEN THE SMOKE of battle had settled after the recent world conflict and the armed services began fighting post mortems, there was given considerable publicity to the theory of pressing younger officers into field and general ranks. Under the proper administration this theory would bear fruit; youth and ability make a highly desirable and effective combination. At the same time, it is not to be construed that these younger inexperienced officers should replace older and more experienced ones. The point to be borne in mind is that there are, within each rank, officers who possess certain abilities to gain experience more readily and to make the most of it. Advantage must be taken of these resources. The present system of promotion impedes initiative and stagnates those with superior capabilities to the lineal ratings established during their youth. A policy must be established to bring out the best, whereby our future crops or corps of officers will through scientific cultivation harvest superior kernels and colonels.

USMC

Take TV Out Of The Bar—

By Maj Robert E. Collier



FOR SEVERAL YEARS NOW, THE TELEVISION SET HAS been the lodestone of saloon society, if of course one discounts the lure of liquor. If this electronic device can sway the elbow benders from their unwavering pursuit of happiness, there must be something to it, for there's is not an avocation which permits interference without justifiable cause. With flame licking out from the base of war clouds in various parts of the world, it's high time serious consideration was given to the application of television to amphibious operations.

As a matter of fact, tests of television equipment were conducted by the Marine Corps almost five years ago with inconclusive results. Apparently, lack of funds, interest, and the state of development of television equipment at that time resulted in a cessation of development of military television, at least so far as its application to amphibious operations was concerned. Another factor which may have had an adverse effect on its development, was the attempt to apply it to artillery and naval gunfire airspot, rather than general tactical operations. It seemed apparent, at the time, that military television could conceivably play an important role in amphibious operations, once technical limitations of the equipment were removed.

WITH THE PASSAGE OF YEARS, commercial development of television has reached the point where its application to military operations seems feasible.

In all probability television could be of value as a supplementary information source to the various arms and to many of the services employed in an amphibious operation. Although it can be employed in ground-to-ground missions, it seems apparent that air-to-ground missions offer the greatest field for exploration and development.

Frequently, air observation and reconnaissance aviation have prided themselves as being the "eyes of the commander." This, of course, was true only in a limited sense. In the case of visual observation, a verbal description is required to transfer the image from the observer's mind to that of the commander. The old saying, that a picture is worth ten thousand words, is certainly applicable. In photographic reconnaissance there is a definite time lag between the action photographed and the time it

is viewed by the commander; this is a decided limitation when information of a transitory nature is required.

Through the use of television, the commander can actually project his eyes to a moving platform above the battle area to see for himself and judge the progress of the operation. Once again, as in the days of old, the commander can view his troops in battle—this time from a chair rather than a horse.

The application of television to amphibious operations, insofar as the Marine Corps is concerned, would not require any material changes in organization or operational technique, since there already exist sufficient facilities: the VMO squadrons and the tactical and gunnery air observers of ground units. The major requirement would be the procurement of equipment. Before surveying the missions and tasks that conceivably could be performed by television, let us turn for a moment to equipment and its assignment.

Of primary concern is the airborne television camera and its accessories, since it is here the greater number of technical problems appear to exist which must and will be solved. The problem of equipment weight and fidelity of images seems to be paramount. Interrelated with the weight problem is the aircraft requirement. The practical approach seems to be in licked the weight problem of the camera and accessories in order that installation can be made on existing aircraft or those under development.

Since television seems to offer most as a supplementary source of tactical information in amphibious operations, it should be carried in aircraft suitable for observation missions. Today, there are three types of aircraft in use in the naval service which could be adapted for this purpose: liaison, attack, and helicopter. Aircraft in each of the foregoing general types could operate with certain limitations as airborne platforms for the television camera. With the OY, our present liaison type aircraft, there would exist a critical weight problem; in the attack type there would exist a serious installation problem; while in the helicopter the factors of vibration and weight carrying capacity would require a solution.

Basically, the helicopter seems to offer most as a platform for television operation since its flight characteristics are such that the camera may be trained on a target or object for a relatively long period of time, a characteristic not obtainable with conventional aircraft.



- AND PUT IT TO WORK

Aircraft equipment for television missions should be provided with a television camera with telephoto lens, monitor so that the observer may see his transmissions, and the necessary accessories required for the equipment to function. The camera and monitor should be easily removable since they may not be required on all operations.

Correctly designed airborne television equipment, including camera, monitor, and accessories, is essential if television is to take its rightful place among wartime electronic devices. Once developed, this equipment should be available to each Marine observation squadron in sufficient quantity to equip at least four of the observation aircraft for missions requiring television transmissions. Under certain conditions it might be desirable to equip some attack type aircraft with television equipment in event aircraft of the observation squadrons were unable to operate because of hostile antiaircraft measures.

Turning now to receiver equipment we run into that question every father has been dogged with for the last year or so, namely, "Daddy, why don't we have a television set too?" The correct and economical assignment of television receivers to organizations and units will require considerable study and experimentation.

Three types of receiver installations should be available. First, a permanent installation for use aboard ships including the AGC, other command ships, and carriers embarking support air units. Second, semi-mobile mounts for use in higher headquarters such as division and corps. This type unit should have a receiver and several monitor or repeater units which could be placed in sectional tents such as the Command Center, Fire Support Coordination Center, G-3 tent, and G-2 tent. Third, a completely mobile set mounted on a jeep. This could be used by infantry and artillery regiments and battalions when desired or could be used for special assignments. Also, it might be feasible to make installations in command or communication tanks in order that tank commanders could, through television, see what is forward of their units prior to an attack.

Thus with three types of installations, various arms and echelons could be provided with current tactical information through television. In addition to ship-borne television, corps should have equipment and spares to receive transmissions of corps air observers and monitor transmissions of division air observers. Division headquarters should have sufficient receivers, monitors and spares to provide scopes in sectional tents, as described

above. At least one jeep mounted set should be furnished each regimental headquarters and one to the tank battalion.

In turning to the employment of television equipment in amphibious operations a note of caution is urged. The television camera is, after all, merely an electronic device without brainpower. Its operation must be performed by an operator with sufficient tactical training to insure that the images televised will be of value to the commander. The constantly changing scene transmitted to the ground receiver makes orientation and identification a definite problem. Normally, television of tactical operations will require an accompanying commentary by the observer operator. In missions requiring a decision by the observer, such as artillery airspot, there seems to be little use for television transmission. However, in the reporting of factual information, accompanying television would be of material value to the commander and would enable him to reach sounder decisions based on information supplied by the observer.

Generally, the missions and tasks appropriate for television closely parallel those for tactical and gunnery air observation. Typical missions that could be televised are:

- a. The movement of landing craft and ships during the ship-to-shore movement.
- b. The movement and disposition of troops, tanks, and vehicles in the beach area and in open terrain.
- c. Study of terrain forward of friendly front lines.
- d. Evaluation and assessment of damage by artillery, naval gunfire, and close air support.

The ship-to-shore movement offers perhaps the greatest field for television in amphibious operations since objects televised on water appear as relatively clear cut images on the receiver scope. The air observer conducting the normal pre-H-hour mission of observing and reporting landing craft waves, their position, speed, formation, and losses, would be capable of augmenting his reports to the Attack Force Commander and the Landing Force Commander through the use of television. As the assault moved inland the air observer would continue his normal missions, supplementing them where appropriate or when ordered by television. During this phase of an operation it would be possible, through the medium of television, for a commander to view the terrain forward of his position, a task that is rather difficult in flat country that is usually adjacent to a landing beach.

It is not beyond the realm of possibility that sound



photographic cameras could record television transmissions for purposes of critique of training operations or for historical record of combat operations. The use of recorded television transmissions would be especially useful in training amphibious forces in the ship-to-shore movement.

There seems to be little doubt that television would be valuable in determining information of friendly forces and terrain as well as information of the enemy. The commander would be able to get a good picture of the disposition of his forces at any given time during the day through the use of the television camera and air ground panels.

A not very exciting mission but certainly one of major importance would be televising the landing beaches during D-day to assist in the determination of the logistical build up and beach conditions. This of course would not relieve logistical staff officers from conducting routine inspection trips to the beach but it would provide the commander and his staff a general picture of the beach at any given time.

It seems apparent that within the foreseeable future we will be again under constant threat of hostile armored attack. Here again the television camera may assist in giving the commander a true picture of events as they occur. The air observer would be in a position not only to give warning of impending armored attacks, the location and type of approaching armor, but he could follow the attacker with his television camera giving tank and antitank officers a picture of the terrain and enemy force before them, prior to engagement with the enemy.

So far little has been said concerning the usefulness of television to artillery and naval gunfire units. As was pointed out earlier, the difficulty of maintaining orientation and direction when viewing the constantly changing terrain picture on the television scope makes airspot through the employment of television impractical at this time. However, television can be of material assistance to the artillery commander provided a tactically trained observer is operating the equipment. Here again verbal commentary would be required in order that personnel viewing the ground receiver could maintain orientation. Television could be useful in the location of targets, the assessment of damage, and surveillance of fire. Although actual ground reconnaissance for artillery position areas can never be completely replaced, it is believed that the artillery battalion commander can save much time through a television reconnaissance conducted by the

observer and himself prior to the ground reconnaissance; any time saved in displacement of artillery is generally worth the effort.

The use of television may prove to be of value to support air units participating in amphibious operations. It is always a problem to keep pilots adequately briefed on landing force operations but it is essential that pilots be thoroughly briefed when operating in support of these forces. By placing television receivers in the ready rooms aboard the carriers and tuning in reports of observers conducting missions over the battle area, pilots could keep up with the situation very well. This, of course, would aid the Air Combat Intelligence Officer in keeping the pilots up to date on the situation. Another advantage would be in presenting the pilot with a picture of the terrain over which he is to operate, prior to a mission.

Since the air observer is generally very familiar with the appearance of the battle area from the air and the current tactical situation of the ground forces, it is often possible for him to designate targets to the air co-ordinator for attack by support aircraft. In the past it

has been somewhat of a problem to designate targets to the air coordinator in certain types of terrain. If the air coordinator's aircraft were equipped with a television receiver it would be relatively easy to designate targets to him by merely televising it.

Television would certainly be a boon to the Fire Support Coordination Center since FSCC personnel could view the area in which targets existed, and thereby be helped in assigning the correct supporting arm for its neutralization or destruction. In addition, it would be possible to see the targets actually attacked, and to assess the damage based on their observations of the television screen.

Since it seems very probable that television could contribute most to amphibious operations through employment of aircraft, little has been said concerning its use in ground-to-ground tasks. It is possible, however, that television equipment observation posts could be of value in favorable terrain and under certain tactical conditions. It is also conceivable that television cameras equipped with security devices might be utilized to transmit maps and documents.

It seems rather pointless to summarize the long list of missions to which television is applicable. If there is a question as to the value of television or whether it is here to stay, just visit the nearest bar. The question that needs to be answered is, "When do we get it?" USMC



Para - Military Warfare

By LtCol William R. Kintner, USA

THE NATION'S SECURITY PLANNING

PARA-MILITARY WARFARE COULD BE VALUABLE—WE SHOULD LOOK INTO IT!

THE CYCLE OF WAR PASSES THROUGH PEACE, TO crisis, through hostilities and occupation to a new peace. The character of each phase of this cycle is determined by political aims. Every instrument of the state serves to achieve these aims. The means the state may employ to wage war range from the speech of a diplomat attempting to seal an alliance to the powerful blast of the atom bomb. There is no sharp gap between the military and para-military forces that may be utilized in war, hot or cold.

Many of the para-military means of waging war are military in character and to be used most effectively must be coordinated in action with straight military warfare, subversive warfare and partisan or guerrilla warfare.

Today's world is torn by a political cleavage between Communism and political systems based on individual freedom. About this cleavage, Communists themselves have said one side or the other must conquer.

Historically, every Communist leader since Marx has recognized and exploited the reciprocal relationship between war and politics, between military force and normal political action. The Communist High Command has proven itself to be as adept in combining the operations of the Red Army with partisan, fifth column, and propaganda offensives as Eisenhower was in welding land, sea, and air operations to make possible the invasion of Normandy.

Lenin, the master strategist of the Communist movement, described the revolutionary warfare at which Communists have become so skilled as a borderland between war and politics, partaking of the nature of each. To the Kremlin, peace and war or half-war are distinguishable only by the emphasis that is given during each to a particular Soviet force. In keeping with Lenin's teachings, Moscow has always followed a course "between war and peace, without losing sight of dangers and benefits potentially inherent in both."

It is a valid maxim of war that every weapon can best be countered by a weapon operating in the same sphere. The fact that the Soviets treat para-military warfare as a prime weapon in their arsenal would suggest that we give serious consideration to making an important place for it in our own. More cogent reasons, however, than keeping up with the Communist Joneses, can be offered as an inducement to give para-military warfare more emphasis.

Until now para-military warfare has not yet made the first team in our military planning. More lip service has been paid to its potentialities than has backing been forthcoming to give it a try. Perhaps one reason why para-military warfare has not been welcomed with open arms by American planners is their feeling that it isn't quite right. It may be well and good for Communists to ply this trade, some contend, but it's not the American way. Actually, there is no more reason why we need wage para-military warfare on the Soviet pattern than there is for us to fire our artillery according to the techniques of the Red Army.

It may prove dangerous to our system of government, however, for America to seek to achieve as close an integration of military and nonmilitary forces as totalitarian governments obtain. It may prove equally dangerous to the survival of this nation for us to persist in neglecting to coordinate military and para-military forces to achieve our objectives in both peace and war.

It behooves the armed forces which intimately support the political aims of war, to recognize the potentialities of para-military warfare. Only as the military exploit a field in which they have a natural interest can they render full service to the people they serve. The surface of what should be done has hardly been scratched.

From a purely defensive point of view, the military should be engaged in instructing its officers and men in the techniques and instruments utilized by the Communists in their brand of para-military warfare. Insufficient information on Communist fifth column or Soviet psychological warfare is included in the curricula of the service schools. Even this picture of relative neglect is bright compared to the status of our own

half-developed concepts for the operational use of para-military warfare.

As present education should be the logical prelude to future action, armed forces that teach little concerning a subject can hardly be expected to forge ahead in its practice.

How ready is the country to cope with any serious, quasi-military operations that might be taken in conjunction with overt warfare by a hostile power? If fifth column activity cannot be handled by civil authorities, are the military prepared to step into the breach? While the armed forces are prepared to render allies conventional military assistance, how ready are they to promote and support partisan operations? What is being done to prepare combat officers for assignments in para-military warfare so that they will not again be called upon to perform tasks for which they are totally unprepared? Would the answer to any of the questions be reassuring?

• **WHAT IS THE ATTITUDE** of many highly-placed officers toward the military's future relation with para-military warfare? If indifference toward para-military warfare should result in the insulation of the military from policies and organizations adopted for its conduct, we can anticipate little return from these unconventional forces in a future conflict. The same errors, the same amateurishness that characterized American efforts in this field during World War II will be repeated.

During the last war the major responsibility for the waging of para-military warfare fell upon OSS and, to a much lesser degree, OWI. These agencies were staffed almost entirely by civilians, most of whom were extremely able men but with few exceptions they had little knowledge of military procedure. Unless they were to wage a separate war against the Axis all of their plans had to be dove-tailed with specific military operations. The liaison established to achieve this coordination often broke down for the simple reason that few military men sensed the possibilities of the ideas spawned by the civilians and few civilians could adjust themselves to the restrictions imposed by necessary military procedures. In an effort to bridge the gap some regular officers were detailed into the OSS and others were charged with the supervision of OWI activities in the overseas theaters. Unfortunately, prior to the war few regular officers had familiarized themselves with these upstart forces in warfare. Consequently, few of them were competent enough in this special field to coordinate effectively quasi-military warfare with standard military operations.

The unfamiliarity of the predominately civilian OSS and OWI to military procedures had other consequences. Top military planners did not regard them as a part

of the over-all strategic team. They often did not cut them in on military plans until the plans were made evident by news-flashes of combat actions. Some military planners were afraid of security leaks, others just didn't like the way these war-born agencies carried on their business. In one theater, the theater commander actually barred the OSS from operating.

The tragedy of mistrust and misunderstanding will be repeated in the future unless steps are taken in time of peace to better integrate the employment of the military and para-military forces.

The fact that the possibilities of these newer forces were not always realized in World War II has led some Americans to underestimate their future value. In the war against Germany, psychological warfare never had a chance. It was doomed to failure because of the Allied slogan of "Unconditional Surrender." This slogan plus a plan for an agrarian Germany offered the German no alternative except to fight—an insurmountable obstacle to successful psychological warfare.

The allied, and especially the American, efforts in the field of political warfare were equally non-productive. Not only did we fail to promote resistance to Hitler within the borders of the German Reich but we actually failed to aid Germans who were striving to eliminate the Nazi gang from power. After Stalingrad a successful uprising against Hitler was politically possible. The one attempted in July 1944 might have succeeded had it been coordinated with and supported by the Allies. Some of our other adventures in the field of political warfare furnished examples of additional failures. The decision to back Tito over his arch rival was a boon to Communist plans. Likewise, the partisan groups armed by the allies in Western Europe became, after the end of the war, the nucleus of aggressive Communism forces in France and Italy.

These failures provide no justification for not trying to do better in the future. Just as a baby falls many times before it learns to walk, it was inevitable that we would make mistakes in a field of warfare we had so long overlooked. We can profit by these mistakes just as we can benefit from studying examples of para-military warfare which have been more skillfully conducted. Although partisan warfare played a formidable role in World War II, its achievements can be traced far back in military history. One of its other names is guerrilla warfare, a Spanish term meaning "little war." The drain guerrilla warfare imposed on Napoleon was an important factor in his withdrawal from Spain and even in his eventual downfall.

Almost a century later the Boer war provided another classic example of partisan warfare's potentialities. It also demonstrated that "little warfare" could have big effects. The Boers, realizing that they were no match

for regular British forces, developed the famed commando style of warfare. The results they achieved can be gleaned from this fact: in order for the British to subdue the Boers they eventually placed in the field a half a million men—more soldiers than all the Boer men, women and children put together.

The World War II success of the Russian partisan forces has become well known. What characterizes all such operations is the great drain they impose on the opposing regular military forces of the enemy for relatively little partisan expenditure in men or material. During 1947-48-49 the United States poured several hundred million dollars into Greece to assist the Greek government ferret out Communist guerrilla bands. It is doubtful if the Communist effort in terms of materials and manpower approached anything like this sum. Perhaps our experiences in Greece may spur us to exploit the weapon of partisan warfare.

The support which the military gives a particular undertaking can be determined approximately by the effort given it. It does little good for military leaders to say they are impressed with the possibilities of para-military warfare unless they also provide the men and means required for its development. The basic foundation for the conduct of para-military warfare must be laid now and it can only be laid by men who are familiar with the problems involved. We cannot afford to ask rank amateurs to dabble in the highly complex business of para-military warfare.

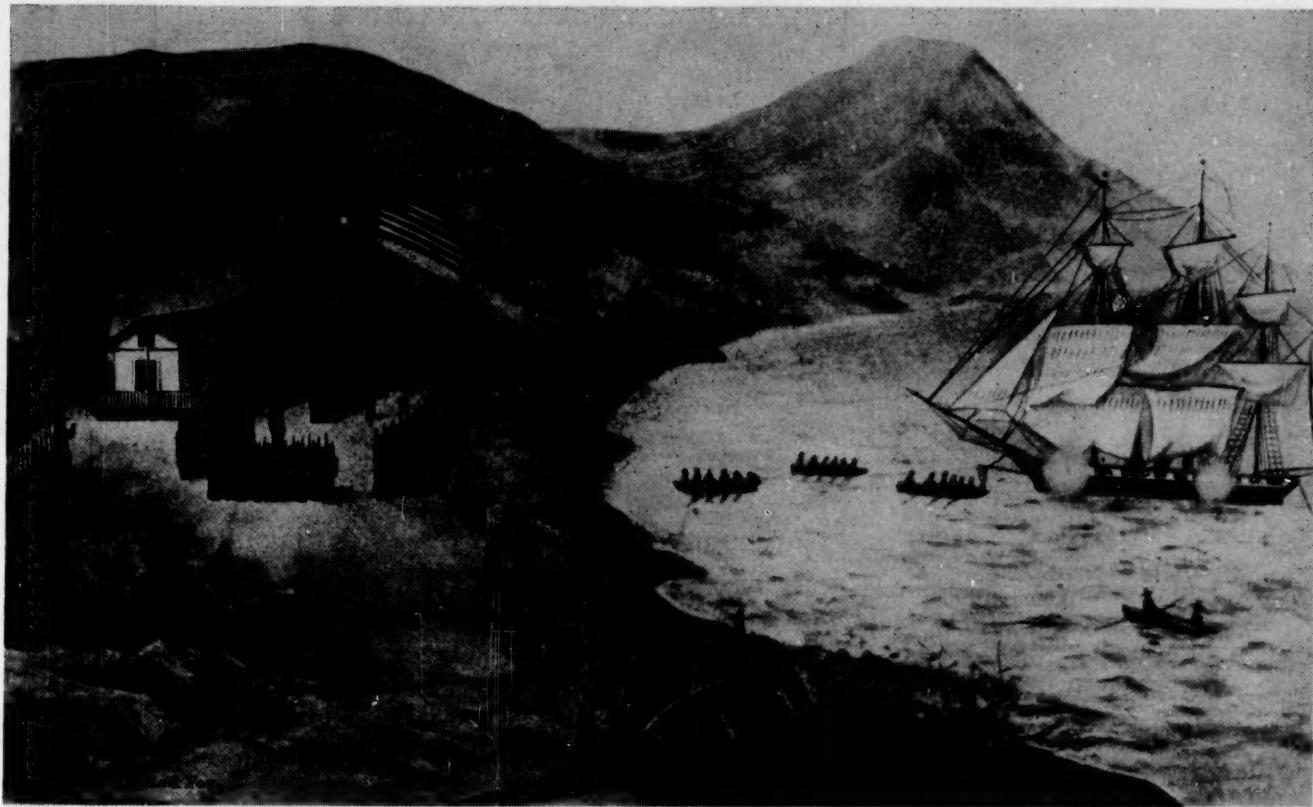
Practical knowledge in these matters cannot be acquired in a hurried cram course. Judgment in the right use of non-military forces and in the reciprocal consequences of the employment of conventional military forces can only be acquired through long study. The armed forces must begin now to acquire officers who can conduct non-military warfare as skillfully as division commanders can handle a regiment.

The mere detail of officers into this field will not insure the fullest exploitation of its possibilities. Irregular warfare requires a special aptitude and enthusiasm.

In an age of increasing specialization, the idea that every officer can or need be a jack of all military trades will no longer stand up. The actual number of officers required to develop and keep alive the art of para-military warfare could be quite small, but the benefits they could bring would be large.

The advent of para-military warfare has not reduced the crucial importance of combat units. An army lacking a hard corps of good technicians and seasoned troops can make little headway with the irregular forces of warfare. But if our armed forces are able to fight with ideas, propaganda and partisans as well as with ships, tanks, planes and flame throwers, history will record them as the winner of tomorrow's war.

USMC



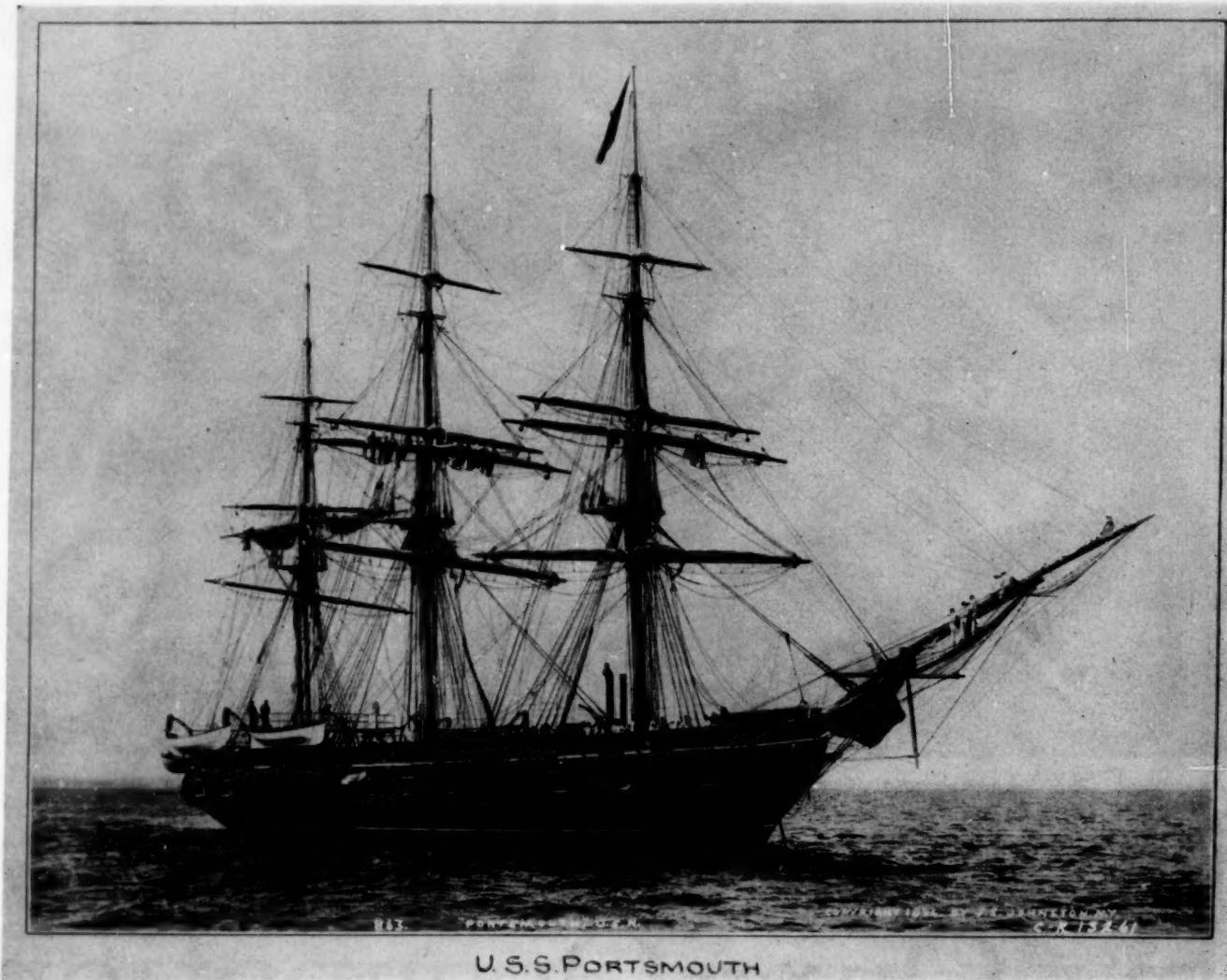
Comedy And Tragedy In Our Occupation Of California

By Capt. J. M. Ellicott, USN, Retd

As the centennial of California's statehood has arrived it should be informative and interesting to turn back the pages of history and refresh our minds upon incidents which preceded it.

In the summer of 1846, the little Mexican village of Yerba Buena, lying on a small cove inside the Bay of San Francisco, consisted of a bare, dusty plaza at the waterfront backed by a long, two storied adobe barracks which housed the Alcalde and his guardias, and flanked by some 30 adobe buildings including a custom house, grist mill, three taverns, and Indian pulperees. At the





U. S. S. PORTSMOUTH

water's edge a landing dock and warehouse.

Besides the families of the Alcalde, guardias, and tavern keepers and those of an American and British vice consul, the population consisted of a few Mexicans, some Indians, and beachcombers of several nationalities.

Yerba Buena was the northern terminus of El Camino Real, a long, dusty trail from Mexico via Monterey.

The seat of government of northern California was at the village of Sonoma, about 40 miles farther north. Gen Vallejo ruled there over a thin and widely scattered ranch population and some roving bands of Indians. The largest ranch center was near the head of navigation of the Sacramento River, and there a rancher named Sutter had built quite a formidable adobe-walled fort for sanctuary and protection against hostile Indians and bandits.

War had become imminent between the United States and Mexico and the Sloop of War *Portsmouth*, Cmdr J. B. Montgomery, had dropped anchor off the Yerba Buena plaza. The Alcalde then departed for the south

leaving his collector of customs in charge of the village.

News of war reached Yerba Buena on July 8 and Cmdr Montgomery informed the Collector of Customs that he would take possession of the village the next morning. That evening the latter hauled down the Mexican flag and deposited it, along with official documents, with the U. S. Vice Consul for safe keeping pending the outcome of the conflict.

The occupation of Yerba Buena which followed has been graphically described in a journal kept by a petty officer on the *Portsmouth* who wrote it under his nickname of "Filings." He described the morning as "bright and beautiful." The *Portsmouth*'s crew was dressed in "clean white frocks, blue pants, black hats, and shoes."

Breakfast was at 6 a.m. and quarters at 8, when Montgomery made a brief speech announcing his purpose. A provost guard of Marines and blue jackets was detailed under command of Lt Henry B. Watson of the Marines to garrison and police the town. Only two officers and a small party were left on board to fire a salute.

The detachment landed at Clark's Point (long since obliterated) enclosing Yerba Buena cove to the north, formed into sections and "to the tune of Yankee Doodle played by one drum and one fife," marched to the *plaza* and formed in a hollow square. The provost guard gathered together some 40 persons of many nationalities and herded them into the square. Cmdr Montgomery then walked up to the flagstaff and solemnly nodded to his executive officer. The latter gave a similar nod to the quartermaster, who came forward, flag in hand and bent on the halliards. Related Filings "this was an awful moment. Something was about to be done which could not easily be undone. Cmdr Montgomery had a proclamation ready prepared and the first lieutenant now read it to the assembled crowd, and when he finished gave the signal and amid a roar of cannon from the ship, the hurrahs of the ship's company, the vivas of the Californians, the cheers of the Dutchmen, the barking of dogs, the braying of jackasses and a general confusion of sounds from every living thing within hearing, that flag floated proudly up."

Montgomery then announced himself Governor of upper California and made Watson military commander of the town. The landing party was marched back to the ship but Filings was in the shore detail and thus describes the aftermath:

"The free and enlightened citizens of Mexico, convinced that they had by some magical proceeding suddenly been metamorphosed into citizens of the U. S., unanimously voted to go where liquor could be had and drank to the health and long life of that flag.

• "THE INDIANS RUSHED TO THEIR PULPEREES, the aristocracy to Bob Ripley's, and the middle class and Dutch to Tinker's Tavern. Soon the strong water began to work. First would be heard a drunken viva from an Indian who would come out of pulperee No. 1, gaze up at the flag, and over he would go at full length upon the grass. Then the aristocrats would raise a hip, hip, hip and a cheering three times three, then from Tinker's a strange jumble of words in which hurrah, viva, hip, pab, and Gott verdam were only too plainly distinguishable."

This lasted until sundown, when Watson's guard dispersed the revellers to their homes.

Among Yerba Buena's residents was an American tavern keeper named John H. Brown who adds this sidelight to the flag raising:

"When we heard that fife and drum beat there was great rejoicing. Before, we were friends from different countries. Now we were brothers whose hearts swelled with pride and patriotism at the thought of being under the protection of the U. S. Government."

The possibility that the Mexicans might attempt to retake the town was by no means remote. Montgomery

proceeded to build an adobe fort on the hill at the north side of his anchorage, using local help for his crew. The local help, of course, was well stocked with liquor not only for its own use but to sell to the sailors. Filings tells how material was carried up the hill in barrows and stretchers, which were used in the evening to bring down those who had become helplessly intoxicated. Meanwhile Lt Watson kept the surrounding hills well picketed. It is told that when he used to return from visiting outposts in the late evening he would stop at Brown's Tavern, tap on Brown's bedroom door and say "the Mexicans are in the brush," which meant that Brown should take him in for a "night cap." One night, however, he returned very late and Brown was sleeping too heavily to hear him, so he called quite loudly "the Mexicans are in the brush" and fired his pistol in the air. Almost immediately the whole garrison rushed to the defense lines, firing indiscriminately into the hills, and a landing party was embarking from the *Portsmouth* before poor Watson could allay the panic he had created. Such was comedy at Yerba Buena, soon to be followed by tragedy. The

Comdr J. B. Montgomery, captain of the PORTSMOUTH.





situation north of the bay caused Cmdr Montgomery little anxiety. The inhabitants had revolted against Mexico, seized Gen Vallejo and proclaimed independence. Capt J. C. Fremont, U.S.A., had arrived in California with a company of regulars on an exploring expedition and when he learned of the war had taken possession of Sutter's Fort. Caught between Fremont and Montgomery the northern Californians very willingly hauled down their "Bear Flag" and substituted the Stars and Stripes.

Montgomery then established a pony express from the northern side of the bay entrance to Sonoma and thence to Fort Sutter, but this was inadequate for transportation of heavy supplies and materials so a water route was established via San Pablo Bay, Karquinez Strait, and the Sacramento River.

The sloop of war *Warren* joined Montgomery soon after the Yerba Buena occupation and became a sort of permanent station ship. The *Warren*'s sailing launch being more commodious than the *Portsmouth*'s, it was especially fitted out for the water route and given a heavy sloop rig.

The trip was a hazardous one. First there was the unmarked channel through the shifting shoals of San Pablo Bay, then the powerful current through Karquinez Strait which on an ebb tide ran almost as strong as a tidal bore and against a strong west wind produced a heavy, turbulent sea perilous to small craft, and the mouth of the

Sacramento River was screened by a vast savanna of reeds growing 12 feet high in a morass interspersed with intricate sloughs and known as the tulerrees (in recent times abbreviated to tules). Some of the sloughs were deep and wide enough to be mistaken for the river itself. A local pilot had to be employed for awhile and this usually fell to a comprador named Clark, who owned a ranch at the junction of the Sacramento and American Rivers and a warehouse and general store at Yerba Buena. Finally, however, officers of both the *Portsmouth* and *Warren* became competent pilots.

And so things went for four months, the sailors getting restless over their isolation in a semi-inhabited land with a prospect of indefinite continuance, and becoming intrigued by the stories of adventure told by prospectors and Fremont's pathfinders. Some even thought they could retrace the steps of the latter and reach their eastern homes.

The launch trips were planned to start on a flood tide setting in before dark, which with prevailing afternoon westerly winds would carry the launch across San Pablo Bay, through Karquinez Strait and into the quiet waters of a side pocket, known as Suisun Bay, before midnight. There the launch would anchor and the men sleep till morning, when, on another flood tide, they would pick out and enter the Sacramento River.

The earlier trips were in charge of Lt J. W. Revere of the *Portsmouth* who kept a journal, afterwards published.

Once he started late and failed to get through Karquinez Strait before the ebb tide set in, so spent the night in the present Mare Island Strait.

"We went ashore and breakfasted at Mare Island," he wrote, "and looked for elk while waiting for the next flood tide. Mare Island is famous for these animals, which are invariably accompanied by a wild mare. We saw the beautiful band, feeding in company with their equine friend."

ON THURSDAY, NOVEMBER 13, 1846, the *Warren's* launch started on a trip up the river shortly before dark, laden deeply with provisions and supplies for Sutter's Fort (then renamed Fort Sacramento) and \$9000 in specie for the pay of the garrison, and an additional \$900 to pay bills to ranchers for fresh provisions. The launch carried its permanent crew of nine sailors: she was in charge of Cmdr Montgomery's son, Midshipman W. H. Montgomery, then an officer on the *Warren*, and carried Midshipman Daniel C. Hugennin of the *Warren* as pilot. Cmdr Montgomery's younger son and clerk, John E. Montgomery, was allowed to accompany his brother for a sight seeing trip and was put in charge of the specie. Both the Montgomery boys appear to have been unexpected additions to the officer party. No secret was made of the large amount of specie carried.

The crew carried muskets and ammunition and the officers carried pistols.

The round trip usually took two weeks but when the launch had been gone 17 days Cmdr Montgomery became alarmed and search parties were sent after her. All returned after a fruitless search of 19 days. Various people had seen the launch crossing San Pablo Bay and entering Karquinez Strait but there all traces ended. Cmdr Montgomery was obliged to sail on December 5 for the Gulf of California, and remained in anguish anxiety until, the 23d of April, 1847, he learned of the fruitless search. Had he remained at Yerba Buena the search, no doubt, would have been more prolonged and persistent, but the exaggerated perils of Karquinez Strait and the fact that the launch was more deeply laden than ever before, that stormy weather had set in and that the launch was over rigged contributed the conviction that she had foundered.

Twelve years later seaman Samuel Turner, the junior member of the launch's crew, told to a miner working with him in the Mother Lode gold diggings the story of the launch's fate, declaring that he was innocent of wrong doing in connection with it and under compulsion.

After the launch had anchored in Suisun Bay for the night's sleep and to wait for the next flood tide the crew crept upon the sleeping officers, intending to overpower and bind them, seize the specie and arms and such provisions as they needed and desert into the wilderness,

but the alertness and vigilance of the three young men ended in their unpremeditated murder which changed the crew from intended deserters to criminal fugitives, so they rowed the launch far up one of the winding sloughs and weighted and sank the dead bodies, pressing them deeply into the muddy bottom.

All remained there in hiding for a day or two, changing into frontiersmen's clothing which they had secreted in their sea bags, and dividing the specie and provisions and other useful accessories.

Then they scuttled and sank the launch and dispersed into the northern country, knowing that they were safe from search for two weeks. The underlying purpose of the majority was to trek across the continent but this could not be attempted until spring, when five of them tried it but only one, so far as is known, succeeded.

Meanwhile, in small groups, they sought work on ranches in the upper Sacramento valley, some even joining bands of friendly Indians. Turner and two others remained together, working on ranches until gold was discovered. All three then went to Hangtown (now Placerville), the center of the mining colony, and there later one of them was hanged by vigilantes for some lawless deed, and another disappeared. Turner continued prospecting for 10 years and then, probably while drunk, told the preceding story to a companion miner.

SOMETHING THE SAME SOLUTION had been surmised after the tragedy by Pilot Clark to residents of Yerba Buena (then San Francisco) and repeated by them to naval and civil authorities but they seem to have made insufficient effort to substantiate it.

Finally, about 1866, William Ladd, then an old and dying man in New York, sent for RAdm Montgomery, Commandant at Boston, and confessed, also claiming that he had nothing to do with the killings.

These confessions were undoubtedly genuine. In later years articles of sailor apparel and navy boat equipment turned up in various localities in upper river valleys.

Silt from the Sacramento River has long since covered a large part of the tulerrees at its mouth and converted them into solid ground under which undoubtedly lie the wreck of the *Warren* launch and the remains of the Montgomery boys and Midshipman Hugennin. This writer hopes that some day a monument will be erected there to their memory and there could be no more appropriate time than this centennial period.

When the *Portsmouth* prepared to sail for the Gulf of California in November, 1846, Lt Watson was returned to the ship and Yerba Buena, soon to become San Francisco, was occupied by the Army.

Young Watson enjoyed the distinction of commanding the first Marine Corps post on our Pacific Coast.

What Do You Know About Supply?



By LtCol Howard B. Benge

A HASTY SKIMMING THROUGH OF THE MARINE CORPS GAZETTES for the past few years shows a plentiful supply of "lets-do" articles. There are a number of pages concerning armor—more on the rifle squad, company, and battalion—some on aviation and a few on logistics. Well, what do you know about supply? Not how to get a pair of socks for Cpl Joe Gish or how to get more toilet paper for your battalion, but rather how does the supply system operate? Oh, I know a number of you are saying "What system?" and there are times when I say the same thing and curl my lip even more. Nevertheless, there is a system. And, though you gentle readers may scoff, it apparently works. I don't propose to explain the devious means whereby the latch catch ratchet retaining pin washer gets from the Farthingale Iron Works to the weapon—because the means vary so much (legally and normally) that we'd soon get beyond the purpose of this article. I do intend to give you a general idea of what your supply system is and how it operates.

Since the Marine Corps is part of the Naval establishment, it is perhaps natural to assume that the internal operations of the Marine Corps are the same as those of the Navy. They are not—and therein lies a tale for another telling. The Marine Corps Headquarters organization now in existence has been tailored, somewhat, to work with the bureaus of the Navy. Basically the structure is as shown in Chart #1 with the Supply Department being charged with the responsibility for procurement, storage, transporting, issue, and disposal of supplies.

In discussing this Marine Corps Supply Department, it may be well to divide by function and take each function in the order of its normal appearance. Not that all business is done by normal channels, of course. The various steps, or phases, involved in the supply of Marine Corps items are broadly: (1) Planning, (2) Conversion, (3) Procurement, (4) Storage, (5) Distribution, (6) Use, and (7) Disposal. Imposed over each is control.

- (1) *Planning*—Broad planning for Marine Corps operations is done by the Division of Plans and Policies (See Chart #1). Plans made by this agency concern men, material, time, space, and money. Each one of these commodities affects the Supply Department. Men, whether added, subtracted or just moved, must be fed, clothed, equipped and transported—all items of supply. Material, normally thought to be all that supply consists of, must be bought, stored and transported. Time, an elusive item if there ever was one, is not handled exclusively by the Supply Department. However, the very existence of a supply agency relieves the operations section from dealing in supply and provides more time. Space is handled by the Supply Department to allow the operating units freedom from another detail—that of buildings and grounds with their attendant utilities. The common denominator for all these things is "money." While the Supply Department does not control all funds it does control a considerable portion of the total. By using a monetary basis the feasibility of plans is determined. When plans are finally approved by the Commandant, these plans, or pertinent parts, are given to the Quartermaster General for conversion to actuality.
- (2) *Conversion*—Further planning is necessary then, in the Supply Department, to convert operations plans to supply requirements. The Planning and Statistical Branch in conjunction with the technical sections accomplishes this feat of seeming legerdemain. (See Chart #2). In actual practice the broad plans are checked and cleared with pertinent Supply sections prior to their approval by the Commandant. By checking is meant—can we do this?—is there enough money for it?—if done how much money will be left?—etc.
- (3) *Procurement*—Requirements, when determined, are screened by technical sections for availability from stocks and the total procurement require-

ments reduced accordingly. Those for which the Marine Corps has procurement responsibility are given to the Procurement Section (Chart #2). Normal government procedures are followed in making purchases. This Procurement Section buys for all Marine units except in some cases the Depot Quartermaster in San Francisco. For small items supply officers in the field submit requests for funds to make a local purchase. These requests are screened by technical sections of the Supply Department and by the Division of Plans and Policies for availability and need. When approved for supply and if funds are available these requests must be authorized by the Quartermaster General prior to purchase. After such authorization the local supply officer can make the purchases. There are other types of procurement of supplies. Ordnance items are, for the most part, obtained through the Army Ordnance, our requirements being added to theirs when they place orders. Now that the Marine Corps rather than the Bureau of Ordnance will control the funds allotted to Ordnance this system should work very well. The same holds true with electronics. In the past the Bureau of Ships has been allotted funds for Marine Corps electronics. In the future the Marine Corps will control these funds, getting their equipment as usual from the Bureau of Ships, the Army Signal Corps, or from civilian firms. The amphibious nature of Marine operations requires close cooperation by the Marine Corps with both the Army and the Navy in the design and procurement of supplies. Procurement for replenishment of stocks is handled by the technical sections through the various procurement agencies.

(4) *Storage*—Procured items are normally sent to one of the five Marine Corps depots (there are three types—those storing all classes of material to serve large areas are the depots of supplies: Philadelphia and San Francisco; those whose major responsibility is the support of a local area: Pendleton and Lejeune; and forwarding depots: Norfolk). Stocks are maintained in depots and delivered to organizations on receipt of proper requisitions. In many cases of procurement the items may be delivered direct to the using agency. The Marine Corps depots have been established in accordance with needs. At San Francisco there is a Depot of Supplies charged with stocking items to supply all Marine units west of the Mississippi. This depot is also the forwarding agency for sending supplies to units in the Pacific Ocean area. In its Barstow Annex is located a large quantity of reserve supplies. At Camp Pendleton there is

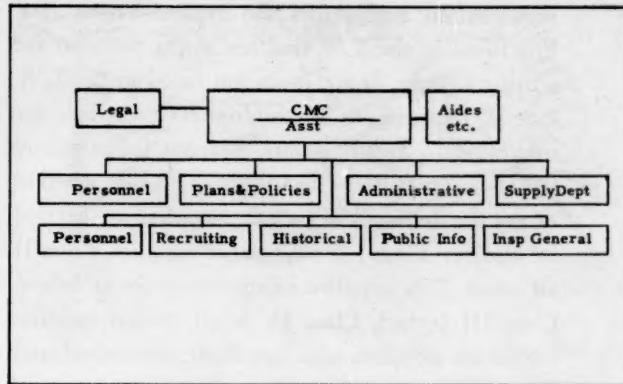
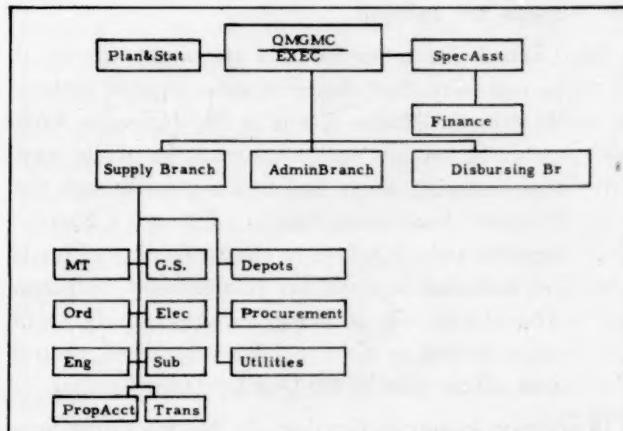


Chart 1

a Supply Depot that supports the camp and Fleet Marine Force troops located at that camp. On the East Coast a similar situation exists with storage and supply of all items to all East Coast units being done at Philadelphia and Norfolk. In addition, the Philadelphia Depot operates a manufacturing plant for clothing and a few general supply items. At Camp Lejeune a Supply Depot supports other Fleet Marine Force troops and the camp at which the troops are located. The forwarding of supplies overseas is done at Norfolk for the East Coast.

(5) *Distribution*—The distribution of stocks to the various depots is determined and directed by the Quartermaster General. Distribution from the depots is made in accordance with normal requirements as established by the Division of Plans and Policies in tables of allowances based on experience factors or as directed by the Quartermaster General. Using agencies receive supplies based on routine requisitions submitted to depots for normal replenishment. These are for items listed in the Marine Corps table of allowances which lists all those supplies normal to an

Chart 2



organization and shows the replenishment rate. For items in the T/A that are not authorized for a using agency, or for items not listed in the T/A, special requisitions containing justifications are submitted to Headquarters, Marine Corps where the Division of Plans and Policies decides whether or not the item will be issued. Supplies are carried by classes: Class I is subsistence supplies, Class II all other T/A supplies except those listed below, Class III is fuel, Class IV is all special supplies for which no allowance has been established and Class V is ammunition. There is another category of supplies using the same classes for aviation units: Class I (A) is flight rations, Class II (A) is all other flight equipment not listed below, Class III(A) is aviation fuel, Class IV(A) special flight equipment, and Class V(A) aviation ammunition. This aviation category is used because though Marine Aviation receives its flight equipment and supplies from the Navy, it is handled through the Marine Corps for Fleet Marine Force Units.

- (6) *Use*—After distribution to the using agency the item has finally started its active life. Using units maintain small reserves that are regularly replenished. When the item becomes no longer useful it is returned to the Supply Department as an unserviceable item or as scrap.
- (7) *Disposal*—Unusable items received by the Supply Department are scrapped or repaired. Repaired supplies are either returned to the using agency or put back in the supply system as stock. Scrapped items become surplus or junk as the case may be and are sold. Maintenance and salvage operations are a vital part of the supply system in that they reduce replenishment requirements by putting unserviceable equipment back into the usable class. Usable items can become surplus if and when over-all Marine Corps needs are reduced.
- (8) *Control*—In order for this system to operate it is necessary that there be some control system. That in the Marine Corps is fairly simple. Each technical section maintains records of its own type material, where and how much, through the Property Accounting Section. Through a Finance Section, a check is kept on the availability of funds by technical sections for procurement purposes. The Marine Corps, being a comparatively small organization, is able to have centralized control over all supplies by the Quartermaster General.

In addition to supply function, the Marine Corps Sup-

ply Department is also charged with the responsibility of making all disbursements. This, being not germane to the present discussion, will only be mentioned. Sufficient to say, all Supply officers in the Marine Corps are also required to be able to perform disbursing duties. They are supply officers with a disbursing MOS.

The Supply Department also runs a Supply School to train officers and men for the various types of duties in the Supply function—cooks, bakers, clerks, accountable officers, supply officers (who also are disbursing officers), mechanics, food service, etc.

The last portion of the Supply Department is administrative. Here lies printing, personnel control, internal administration and procedure. These last two are normal to every military organization and require no discussion. Printing, however, is a separate field in itself. Government printing regulations are rigid and exercise strict control over this operation. Marine Corps control over printing is maintained at Headquarters level through definite allocation of funds and inspection of samples of work done.

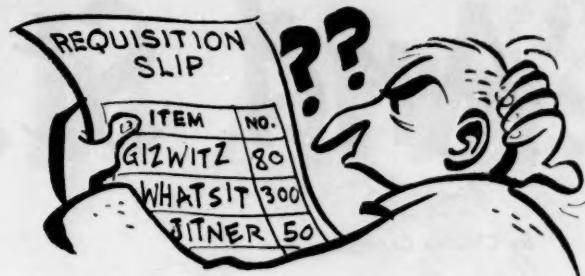
Nothing is as simple as it appears on the surface. The Marine Corps supply system, while laid out on uncomplicated lines, is really more involved than is apparent. However, because of the simplicity of the system and the small size of the Marine Corps much business is transacted on a personal basis. This tends to speed operations but slows and confuses the record keeping and administration. This extra work is accepted by the Supply Department in order to speed operations. This is in keeping with the basic thought on which any supply system must rest—"service."

"Service?" you say. Lets take a better look. That's only the way supplies are brought into the Marine Corps for storage and issue. But up to this point have you started to realize that there's more to getting the socks for Joe than just paying for them? Tied up with all this business of purchasing and storing is a plan. A master plan, if you will, that requires the Marine Corps to be prepared to support its combat units for a certain period of time. This means that stocks of supplies, in varying amounts, must be stored—small amounts in the hands of the troops and large amounts in depots. This material must turn over continuously in order to keep fresh stocks on hand and in order to bring improved equipment into the system; for instance, dry cell batteries. These things are consumed at a terrific rate. Accordingly, our war stocks must be pretty large. But this item has a pretty short life. It goes bad unless used soon after purchase. That means we are continually buying and shoving the new items in one end of a warehouse while we take older items out the other end for issue to the field. *It can't be done in any other way.* Now, let's

suppose a new dry cell is invented. It's many times better than the one we have. Everyone knows about it, including you—so you ask for some. Do you get them? No! The supply officer sends you the same old type you've always had, and you know d-m well the Marine Corps has some because Lt Whoosits just came back and he saw some. Well, the Supply Department is operating on a pretty tight budget. If it buys something for the Marine Corps, then the Marine Corps has to use it. That something just can't be thrown away. So—you won't get your new batteries until the old stocks are used up. It may take a year before all the old stocks (including material being received on existing contracts—contracts that can only be broken with a loss to the Marine Corps) are all gone. But during that time our expenses for batteries have been normal. If we had thrown away all our stocks of the old type battery the cost of building up to the 90 day, 120 day, 6 months or whatever the level was—would be an extra expense and though you would get your dry cells right away you probably wouldn't get paid for a couple of days—take you choice. There is only so much money and it is never enough to do all the things the Marine Corps would like to do. In the type case discussed, common sense prevents the waste. But did you ever think of your supply gripe in that way before? How much do you know about your Supply Department?

WE STILL haven't discussed your own problem concerning the system of supply. Your last requisition took over two months to fill and some of the stuff you'll never get. Why? Let's find out. Your list requisition was prepared right here in the company office. Did you check the instructions for preparing the requisition? Is the nomenclature of items correct? There are no mind readers available for filling requisitions. Having found your requisition technically correct and in due form you sent it up the long line—through battalion, regiment, division, and then where? Normal requisitions go through the supporting depot. Other than normal go to Headquarters where the Division of Plans and Policies has to okay them before they are approved for supply.

Your justification has to be pretty solid, or at least original, to get approved. Only then can the stuff be bought. You may be asking for something that gets the full treatment of bids and contract. They're covered by government regulations and the delay is one that cannot be licked. By this time you have probably had your senior NCO dream up a substitute for the thing you wanted and you've forgotten the requisition—or you've been transferred—or the need for the particular item has passed so the Marine Corps ends up with another non-standard item on its shelves. Your routine replenishment requisitions are filled without much trouble—of



course anyone in battalion, regiment, or division can ink out any of your requests but normally you get what you ask for if you rate it, providing, of course, you made the requisition out correctly to start with. In any case, if you really need something—and can prove it—you'll get it.

Delay is caused by the system required in making purchases mentioned above. But that's an understandable delay—delay from cause. The bad delay is the one you cause. Instead of planning (and strangely enough supply requires as much planning as operations) you waited until you ran out—that meant a requisition for a single item marked emergency, urgent, etc. You and a million others! Net result is that most requisitions received in a depot are emergency—they arrive continuously and are therefore filled in the order received. But emergency requisitions are for only a few items so there's more of them.

Those few souls who do plan and who do submit regular monthly requisitions are made to wait even more than you because of the large number of "emergency" requisitions. Do you know that the work involved in filling a requisition is practically the same regardless of the number of items on it? Emergency requisitions have been established for emergencies—not to cover up lack of foresight. When used erroneously they defeat their purpose and manufacture work to say nothing of what it does to the reputation of the Supply Department. Check with your nearest supply agency and see how many emergency requisitions for one and two items are received per month. And all this time the Supply Department has been receiving the gripes for lack of service. You get paid regularly. And you accept the fact that you get no dough unless you do what the Disbursing Officer says—"sign here—fill this out—sign again"—never any complaints about getting that right and *you don't send in for money every other day* as an emergency—*you plan*. The supply system is run under the same type rules. If you read the instructions, do what they say and stay clear of emergencies unless they are, you'll get supply "service." But in any case the service you get will only be as good as your efforts to abide by the existing system.

USMC

"And St. David" --

By Charles Graves

Nowhere are the deeds of the United States Marines in Korea more closely watched than in the British Zone of Berlin, where their favourite comrades in arms, the Royal Welch Fusiliers, have been stationed since the anxious days of the Air-Lift.

Their friendship was forged in China, just 50 years ago, in the days of the Boxer massacres, when these two famous units formed part of the mixed international force sent to relieve the foreign legation in Peking. Advancing rapidly from the coast against stiffening resistance from the Chinese hordes, the Marines and Royal Welch first forced their way into Tientsin—where they set free a future President of the United States, Mr Warren G. Harding—and then pressed on to the relief of the capital.

Early in the campaign, when the Fusiliers and the Marines were learning to rely on each other more and more, a Royal Welch officer mentioned that his regiment had the honor of fighting during the American War of Independence against the predecessors of the U. S. Marines. An awkward silence followed, broken by an officer of the Marines asking why, in that case, no American battles figure on the long list of Regimental honours. The Royal Welch officer truthfully replied that though his regiment had gained much distinction, especially under Lord Cornwallis, in the fighting that preceded the final surrender at Yorktown, it has steadfastly refused

to record on its colours successes gained against its own kith and kin. This chance conversation did much to lay the foundations of a friendship that continues to this day.

What the Royal Welch officer did not tell his hearers, was that the original Thomas Atkins, after whom all British 'Tommies' are named, was a member of the tiny but heroic garrison of Royal Welchmen who defended the "Fuzileers' Redoubt," as it is still known, on the extreme right of the British positions before Yorktown.

One result of the new friendship was the start of an annual exchange of telegrams between the Headquarters of the U.S. Marines and those of the RWF at the regimental depot in Wrexham, North Wales. Wrexham was, incidentally, the birthplace of Elihu Yale, and an exact copy of the ancient tower of Wrexham Church stands beside the Memorial Quadrangle of the University that bears his name. The telegrams are sent each year on March 1st, St. David's Day, this Saint being patron both of Wales and of the Regiment. The telegrams contain three words only and they are always the same—"And St. David." By regimental tradition all toasts at the celebrations on March 1st are coupled with the name of St. David, so these words have a special meaning for anyone who has dined at the regimental mess.

Among the ceremonies carried out on this occasion is the Eating of the Leek. Newly joined officers, and guests attending their first St. David's Day dinner, have to stand with one foot on the dinner table and eat a raw leek "to the roll of the drum and the smell of the goat." Originally the regimental goat, emblem of Wales, entered with his horn gilded and a young drummer-boy on his back, but in Boston (Mass.) in 1776, the goat, after walking round the table, leapt right over it, depositing his rider among the decanters and glasses, and rushed into the city, to the wonder of the inhabitants. Since then the goat has been without a rider and is led in by the goat-major.

When Gen Pershing arrived in England in 1917 to command the U.S. Forces in Europe, he was met at Liverpool docks by the Regimental Band of the RWF, headed by its goat and goat-major, and its pioneers dressed in white buckskin aprons and gauntlets and



Comrades In Arms



carrying their bright ceremonial axes and mattocks—another privilege enjoyed by the RWF alone. An equally warm welcome was later accorded to the first detachment of the U.S. Marines to reach England in World War II.

In 1930 a historic ceremony took place. A contingent of U.S. Marines who had fought in China in 1900 journeyed to Tidworth, England, where the great American composer Sousa, himself an officer in the Marines, conducted a Royal Welch Band in the first performance of his own march, "The Royal Welch Fusiliers." It is believed that the Royal Welch are the only British Regiment to have been thus honoured by Sousa. The original manuscript and the ivory baton used by Sousa on this occasion are among the treasures of the Regimental Museum at Wrexham.

In 1934 another happy reunion took place at Gibraltar, where the RWF were stationed. Two ships of the U.S. Navy, each with Marines on board, put in and received the royal welcome from their old friends. A telegram was at once sent to the U.S. Marines Headquarters announcing that the Royal Welch had the men of the *Arkansas* and *Wyoming* in safe keeping—a jocular reference to the compulsory hospitality shown to the Regiment at Winchester, Virginia, in November 1781, after the fall of Yorktown.

At the beginning of the Sino-Japanese War, in 1937, the U.S. Marines and the Royal Welch once more found themselves side by side, protecting foreign lives and property, this time at Shanghai. Though none of the veterans of Peking were present, the event did not pass unnoticed in the United States and a day or two later the words "And St. David" were cabled across the Pacific Ocean by BrigGen Richards, who had lately retired from active service with the Marines.

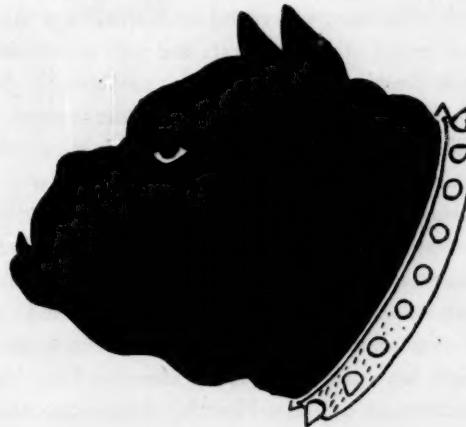
In World War II, the 1st Battalion, The Royal Welch Fusiliers was badly cut to pieces in a glorious stand during the retreat to Dunkirk. Later, it sailed for India where it was joined by the 2d Battalion. While the U.S. Marines were grappling with the Japanese in the islands

north-east of Australia, the Royal Welch battalions fought against the same enemy in defence of India, the 1st in the Arakan and at Kohima, the 2d in the Battle of the Tunnels. Later they took part in the reconquest of Burma. The 1st Battalion forced the crossing of the Irrawaddy and helped to capture Mandalay. The 2d came under the command of Gen "Vinegar Joe" Stilwell and gained his reluctant admiration for their fighting in the van of his thrust down the Railway Corridor.

When the war was over, the Royal Welch formed part of the Imperial Forces sent to join the United States Forces in the occupation of Japan. Here the Japanese, after witnessing a ceremonial parade, firmly believed that the Royal Welch worshipped their regimental goat as a God.

Once more trouble has broken out on the Chinese mainland. The U.S. Marines are already there, performing valiant deeds against a skilful and mobile foe. A small British force has already been sent from Hong Kong. Before final victory is won, further British troops are likely to be needed to swell the United Nations Forces. None can have a stronger claim to inclusion than the Royal Welch Fusiliers, who would be returning to familiar scenes and would once more be fighting alongside their old friends, the United States Marines.

US MC



Passing in Review

BOOKS OF INTEREST TO MARINE READERS

Sic Transit Gloria Maundi . . .

ASSAULT FROM THE SEA—Rear Admiral L. E. H. Maund, CBE, RN (ret), 306 pages, 39 plates, six maps, indexed London: Methuen & Co., Ltd. 25s. net.

The publisher's jacket-blurb for *Assault from the Sea* describes this British amphibious narrative as "the first comprehensive account of the contribution made by 'combined operations' to the winning of the war."

Judged by that self-assumed standard, Admiral Maund's book falls far short of being anything like comprehensive, or even uniformly accurate, especially in matters (and there were a good many, despite the all-embracing, definitive title) in which the Admiral didn't have a hand.

On the other hand, if we re-assess *Assault from the Sea* as a rambling, good-humored, personal narrative by an officer with long, though not very wide, amphibious experience, the book falls into its proper place. And on that basis, U. S. Marine readers will find it far easier to forgive the occasional historical and technical *gaffes* (such as those on U. S. amphibious development) which sometimes make *Assault from the Sea* rather spotty reading.

Admiral Maund's story—as distinct from his opinions and his Monday-morning quarterbacking on operations in which he did not participate—is that of an officer who, it appears, was one of England's early amphibious pioneers. It begins in 1938, with the Admiral's appointment as senior member in England's newly formed Inter-Service Training and Development Center. This establishment was intended to sparkplug British amphibious development, which, to put it mildly, had been lagging. From 1938 until England's entrance into war in late 1939, the ISTDC (if I may borrow Admiral Maund's trick of labelling everything by initials), was mainly concerned with design of landing craft and with evolution of an agreed-upon Combined Operations (e.g., amphibious) doctrine. When World War II began, the Center was promptly disbanded by higher authority because, to quote Admiral Maund, "There would be no combined operations in this war . . ." (!).

Very shortly afterward, on second thought, it was decided that amphibious war just might enter into forthcoming campaigns, and the decision was rescinded. And only a little after that, Admiral Maund found himself projected into the ill-fated Norway adventure in which England was to discover what she might have gained had she possessed a Fleet Marine Force in readiness, as well as a Fleet Air Arm unimpaired by the heed-

less, short-sighted zealots of Airpower. This portion of *Assault from the Sea* constitutes, in my judgment, the most valuable and interesting portion of the book, and will undoubtedly add much to our basic source-material on the Norway fiasco.

But after this promising start, *Assault from the Sea* maunders off into an account of the Admiral's service in command of the carrier *Ark Royal*, an episode which the author attempts to work into the amphibious warfare theme by entitling the two chapters in question, "Protection of Expeditions Crossing the Sea" and "Protection of Our Expeditions Against Air Attack." Both chapters are three-fourths naval reminiscences, and very good reminiscence, too, of British carrier task force operations in the Mediterranean and Atlantic—but it seems silly to pretend that they have much to do with amphibious warfare.

With the end of his tour afloat, the Admiral found himself ordered out to the Middle East, where he was designated Director of Combined Operations (Middle East), and instituted development of something rather similar to our own Troop Training Units. Anyone concerned with the very considerable problems of making trained amphibians out of raw soldiery will find sensible lessons of training technique in Admiral Maund's narrative, but already the reader begins to sense a narrowing of the author's sphere and of the book's useful scope.

From this point of departure (although precisely how, the narrative fails to make clear), Admiral Maund participated in the Sicily and Salerno landings, the latter being (as near as this reader could make out) his amphibious swan song. He draws interesting lessons from both, but conveys the impression, perhaps unwittingly, that anybody who was at Sicily and Salerno had really seen them all, and needed to know little more. An example of this parochial viewpoint is his preposterous characterization of the shore-to-shore Sicily assault—which bobbed in several important particulars—as ". . . this great expedition, *the greatest of all time*." (italics supplied). That's taking in a lot of territory.

Aside from a noticeable number of spelling and rhetorical flaws which mar pleasant writing that otherwise possesses vivacity and *élan vital*, *Assault from the Sea* must evoke serious disagreement from U. S. amphibious sophisticates. Here are a few reasons why.

(1) The low reliance (which Admiral Maund shares with most other British amphibious people) on the efficacy and mandatory need of close naval gunfire and air support—both

more than proven linch-pins of the U. S. amphibious technique.

(2) The notion that the Army ought to be the Service possessing predominant amphibious functional responsibility (a strange aberration for an admiral. . .).

(3) His rather irritating assumption that serious world-wide amphibious thinking and development commenced in Southwest England in 1938, coincidentally about the time the Admiral joined his ISTDC. Yet Marine readers will recall that *Tentative Landing Operations Manual, 1934*, was then already four years old and already well field-tested by FLEX-1 through FLEX-4, as well as by the year-round preoccupation of the Fleet Marine Force with amphibious war.

(4) The Admiral's myopia to the classic and proper role of Marines in advanced base warfare. This is not only an error of dogma (or lack of it), but—insofar as U. S. Marine Corps matters are concerned—sheer laziness as to facts. There can be no other excuse for such egregious historical blunders as the passage (p. 304) which will so justly inlame Marine readers:

"It is interesting to note that the Japanese and Americans allocate (amphibious) responsibility in the same way. In Japan the Army was entirely responsible for craft and landing operation technique, while the Navy only gave security to the transports during their passage over the sea. In the United States (italics supplied) the Marines were primarily responsible for landing operations, including minor landing craft, but because they were not under the Army Department, they failed to keep abreast of army equipment and the administrative problem and so brought the operation against Guadalcanal to the brink of disaster."

One could devote an entire monograph to rectifying the foregoing complex of careless misstatement and broad-brush inaccuracy. A good beginning (for the benefit of our admiral-author) would be that the only factor which ever brought Guadalcanal "to the brink of disaster" was the Navy's temporary loss of ability to control the sea.

In conclusion, the best I can say for *Assault from the Sea* is that it is easy reading. Its self-assured plausibility, however, may deceive novice or dilettante amphibians into thinking it authoritative.

That would be a serious mistake.

Reviewed by LtCol R. D. Heinl, Jr.

A "Must" For Your Library

LIFE's Picture History of World War II is one book every Marine will want to see. It combines the finest in combat photographs and paintings (many in color) with 80,000 words of interesting text prepared by Robert Sherrod and John Dos Passos. Don't wait until this outstanding book is out of print. Order today. If you are an Association member, you are entitled to a 10% discount. Price \$10.00

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ANNOUNCEMENT

Regular readers of the GAZETTE will recall an article in the December 1950 issue entitled *The U. S. Marines and Amphibious War*, by Jeter A. Isely and Philip A. Crowl, Department of History, Princeton University, which outlined the contents of the forthcoming book of the same title. This book has been published and is now available (see the back cover of this issue). We had hoped to include a review this month, but because of the late arrival of the review copy we are forced to postpone the review until next issue. We hope, however, that this will not deter those who are interested in obtaining this book from ordering it now through our Bookshop.

Estimate of the Situation . . .

BEHIND CLOSED DOORS—Ellis M. Zacharias, Rear Adm, USN (Ret.). 331 pages, footnoted, G. P. Putnam's Sons, New York, 1950. \$3.75

Today, when one reads so incessantly of wild claims and counter-claims in the struggle of the free world against the "free democracies," it behooves every intelligent and discriminate student (reader) of world affairs to peruse an occasional highly documented piece of current literature. Such a book as Adm Zacharias's *Behind Closed Doors* fulfills all the qualifications one would place upon a fairly accurate "quasi-intelligence" report.

Using, as a basis for his estimate of the situation, dates and plans (as Communist planners do, especially the infamous Politburo much to the misunderstanding of American planners) Adm Zacharias places January 5, 1945 (Yalta) as the date ushering in the "cold war," and January 29, 1949 (extraordinary session of the Politburo) as the preparation date for the "hot war." For on this latter date it was unanimous among the astute members of the Politburo that Lenin's thesis on the inevitability of war between Capitalism-Imperialism and Communism was quite valid.

Tracing our diplomatic relationship with Russia from Yalta to the present, the Admiral arrives at about the same conclusion as most discerning Americans; consistent and, if need be, out-right belligerent diplomatic fight against the recognized enemy of our tenets of democracy is needed. Such inconsistencies in the foreign sphere as existed during the Byrnes-Truman fight have no place in the foreign relations of any nation, much less a nation in the leadership position. He further suggests that we give up this expression of world leadership, as being forced upon us, and maturely realize that we have it and

will conduct it as the old masters (British) did so successfully.

A vital concept is reiterated throughout this book, one which we must comprehend if we are to survive; that a "Pearl Harbor" attack bringing war upon us is out-dated and thoroughly inconsistent with Communist thought. It will be a growing concatenation of various related incidents (Korea) scattered all over the globe, a boring from within by expertly trained "activists" using "invisible maneuvers" and a hail storm of malicious propaganda using every surreptitious stratagem conceivable in the minds of the ultra-realistic Communist mind.

For a revealing discussion on the possible number of Russian atomic bombs and the organization of the atomic program in Russia, the reader will find *Behind Closed Doors* an instrument to open the presently closed doors of our intelligent thinking on this controversial subject.

Whether you're G-2ing the situation or just trying to keep abreast of current events and world happenings, Adm Zacharias's "estimate of the situation" is both enlightening and readable.

Reviewed by 1stLt Karl D. Morrison

GUNSMITHING SIMPLIFIED, by Harold E. MacFarland.

A Sportsman's Press Book published by the Combat Forces Press, Washington, D. C. 302 pages, illustrated.

\$6.95

Trained for combat and known as the world's best military marksmen, most Marines have an interest, if not a love, for weapons which is equal to the love of a skilled craftsman for the tools of his trade. It is only natural then, that many Marines work on guns, either gravitating to an armory or ordnance outfit or as a hobby. Ex-Marines who began in this way are by no means uncommon among the ranks of professional gunsmiths. Marines may be expected to continue along these paths and *Gunsmithing Simplified* will get them off to a running start and help them avoid many a pitfall.

Gunsmithing is a profession that, until recently, could not be learned in any school except that of hard experience. The author is an honor graduate of that school. His aim is to strip gunsmithing of its mystery and to bridge the gap between theory and experience for the aspirant gunsmith, whether apprentice or hobbyist. Written in salty, direct language and well illustrated, MacFarland's book neither talks down to the beginner nor assumes that he has an ordnance machine shop at his disposal. A check list of important contents includes gunsmithing tools and their use, making tools and parts, converting military arms to sporting use, barrel fitting and chambering, welding and tempering, bluing, stock-work and decoration, trigger adjustment, scope and sight mounting, charts and tables of information useful to gunsmiths, and a directory of gun and accessory manu-

facturers and gunsmiths. Notable throughout the book are many original gunsmith kinks not heretofore published and lots of dry humor and sage advice for the beginner.

MacFarland knows whereof he speaks as he has been a successful gunsmith since he was 17 and by reading between the lines this must add up to considerable years.

Reviewed by LtCol F. B. Nihart

✓ Check List

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This list is revised monthly to include the latest in military and popular books. Are there some new titles that should be added to your library? Remember, there is a ten per cent discount for Association members.

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